



April 3, 2006

Mr. James Strozier
Orange County Health Care Agency
Hazardous Materials Mitigation Section
1241 East Dyer Road, Suite 120
Santa Ana, California 92705-5611

Subject: **Closure Request**
Site: **Chevron Service Station No. 9-0819**
 195 East 17th Street, Costa Mesa, California
 Case No. 98UT93

Dear Mr. Strozier:

On behalf of Chevron Environmental Management Company (CEMC), Science Applications International Corporation (SAIC) has prepared this request for regulatory case closure for Orange County Health Care Agency (OCHCA) case number 98UT93. The site is located at 195 E. 17th Street in Costa Mesa, California.

A prior OCHCA case (91UT065) at this site was closed in 1996 after completion of soil and groundwater assessment and remediation (OCHCA, 1996). Both the current and former regulatory cases were initially opened based on concentrations of petroleum hydrocarbons detected in soil samples collected beneath fuel dispensers at the site during fuel distribution system upgrades in 1991 and 1998. Historical analytical data indicate that petroleum hydrocarbon concentrations at the site are of similar magnitude in both of the regulatory cases, and the current conditions may represent residual impact from the prior release. However, chemical analyses for methyl tertiary butyl ether (MTBE) and other oxygenates was not performed during the earlier investigation. MTBE has been detected in soil and groundwater at the site.

MTBE was detected in soil samples collected in 1998 at a maximum concentration of 44.0 mg/kg. This is the historical maximum reported concentration from all soil samples collected at the site to date. The historical maximum concentration of MTBE in groundwater is 15,000 ug/l, reported in a grab sample from boring DP5 in December 2000. The current maximum MTBE concentration in groundwater is 32.0 ug/l (MW-13, 1/17/2006).

CLOSURE RATIONALE

Historical chemical analytical data indicate that hydrocarbon concentrations in soil and groundwater at the site have been delineated both laterally and vertically. Soils adjacent to areas of concern at the site, specifically the underground storage tanks (USTs), dispensers, and product piping areas, have been sampled at depths ranging from just below the surface to 40 feet below ground surface (bgs). Groundwater monitoring has been conducted in two separate monitoring well networks. Concentrations of analytes have decreased during each of the two periods of investigation. Point attenuation rate analysis suggests that concentrations will degrade to Maximum Contaminant Levels (MtBE) and Notification Levels (TBA) in all wells within approximately six years. Non-aqueous phase liquid has never been detected in groundwater monitoring wells at the site. Historical soil and groundwater analytical data are presented in Tables 1 and 2.

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Monitoring of geochemical indicators of natural attenuation suggests that subsurface conditions are favorable for biodegradation of the residual hydrocarbons in detected in soil and groundwater.

Additionally, over-excavation of impacted soils conducted in 1991 resulted in the removal of approximately 100 tons of hydrocarbon-impacted soil (Chevron, 1991).

SITE DESCRIPTION

The site is an active service station currently operated by G&M Oil Company (G&M). It is located on the southwest corner of the intersection of East 17th Street and Orange Avenue in Costa Mesa, California (Plates 1 and 2). The site is near the crest of Newport Mesa, at an approximate elevation of 100 feet above mean sea level. The site is surrounded by commercial properties. The nearest residential properties are located approximately 325 feet to the southwest. Four schools are located within 1 mile of the site. The nearest school is approximately 0.5 miles to the south (USGS, 1965).

Currently, the site maintains three USTs in the western portion of the site, and three dispenser islands and associated product piping. A convenience store is located in the western portion of the site. A site plan showing station features is included as Plate 3.

GEOLOGY

The site is located on the southwestern portion of Newport Mesa, within the Newport-Inglewood Fault Zone. Right-lateral strike-slip movement along the fault has resulted in a zone of deformation within the overlying marine and continental sedimentary deposits. The surface expression of the fault is a series of low-lying hills and mesas that trend roughly parallel to the coast. Plates 4 and 5 depict the areal geology of the site and a generalized geologic cross-section in the area of the site, respectively.

Newport Mesa is a Pleistocene wave-cut bench in Miocene and Pliocene marine sedimentary rock overlain by Pleistocene marine terrace deposits and fluvial deposits (Guptill and Heath, 1981). These Pleistocene age deposits are comprised of sand, gravel, silt, and clay. The underlying Pre-Tertiary sedimentary units are typically consolidated sandstone, siltstone, and shale. They are dissected and locally folded within the Newport-Inglewood Fault Zone. These units are reportedly laterally continuous and crop out along the escarpment of Newport Mesa. The Pre-Tertiary sedimentary strata are considered non-water bearing (CDWR, 1967).

Subsurface materials encountered during assessment activities were variable, but generally consist of two to five feet of coarse-grained sand underlain by ten to fifteen feet of clays and silts with very fine-grained sand. This fine-grained unit is underlain by very dense moderately sorted very fine- to medium-grained sand. Bedrock was not encountered in any of the onsite borings to approximately 40 feet bgs, the total depth of exploration at the site. Plates 6 and 7 present geologic cross-sections constructed from data collected at the site during assessment.

HYDROGEOLOGY

The site is located within the South Coast Hydrologic Region near the southern boundary of the Orange County Groundwater Basin. The basin contains a thick accumulation of sands and gravels interbedded

with less permeable fine-grained deposits of silt and clay. The proportion of fine material generally increases toward the coast, dividing the basin into Forebay and Pressure areas (Plates 8 and 9). The Forebay refers to the area of intake where the majority of recharge to the basin occurs through percolation of water in and near the Santa Ana River channel. This portion of the basin is typically characterized by sands and gravels of high permeability with relatively few clay and silt deposits. The clay and silt deposits that do form aquitards are generally laterally discontinuous in the Forebay area (CDWR, 1967; OCWD, 2004). The Pressure area is characterized by laterally continuous clay and silt layers at shallow depths (upper 50 feet) that impede the percolation of water into the major producible aquifers (OCWD, 2004).

Aquifers in the basin are segregated into shallow, principal, and deep aquifer systems (Plate 5 [OCWD, 2004]). The shallow system contains Holocene and older alluvium, stream terraces, and upper Pleistocene deposits of sand, gravel, silt and clay. Generally, the shallow system contains a lower percentage of water-bearing strata in the coastal areas, resulting in relatively minor recharge from the surface to the groundwater basin. Recharge to the shallow aquifer system occurs primarily in the northeastern portion of the basin (CDWR, 1967). The principal aquifer system includes the Coyote Hills and San Pedro Formations which are composed of sand, gravel, and some clay. The primary recharge to this system is derived from the Santa Ana River channel in the northeast (CDWR, 1967). The deep aquifer system includes upper Pliocene age sands and conglomerates. Groundwater in this system has been characterized as “colored”, or aesthetically degraded.

Plate 10 shows the locations and production volume for pumping wells in the basin (OCWD, 2004). Historical groundwater flow was generally toward the Pacific Ocean in the area of the site, but modern pumping has caused water levels to drop below sea level inward of the Newport-Inglewood fault zone. This trough-shaped depression resulted in sea water migration inland. Plate 11 shows the eastward migration of the 250 mg/l concentration contour for the chloride ion over select years. Also depicted on this plate is the Talbert Injection Barrier. Injection wells in the Alamitos and Talbert Gaps create a mound of water seaward of the trough to protect the basin from seawater intrusion (OCWD, 2004). The site is located approximately 4.5 miles south of the Talbert Barrier, on the seaward side.

Groundwater monitoring at the site indicates that depth to groundwater has been stable at approximately 32 feet bgs with minor fluctuations not exceeding 1.5 feet in either direction. Groundwater gradient data at the site indicates that the west-southwest flow direction has remained stable over the duration of the monitoring program. Groundwater gradient at the site has averaged approximately 0.002 ft/ft throughout the monitoring period.

SITE HISTORY

The following is a summary of subsurface assessment and chemical analytical data. Historical soil and groundwater data are presented as Table 1 and Table 2, respectively. A site plan showing sample locations is presented as Plate 3.

The site's initial OCHCA case (91UT065) originated based on the results of shallow soil sampling during the replacement of the fuel dispensers and portions of the fuel piping system in 1991. Concentrations of total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and xylenes (BTEX) were detected in samples PI1-A, PI2-A, and PI3-A. The maximum concentrations of TPHg (1,300 mg/kg) and benzene (2.3 mg/kg) were detected in sample PI1-A, collected near the southeastern pump island.

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Sample PI3-A, collected near the southwestern dispenser island, exhibited TPHg and benzene concentrations of 660 mg/kg and 0.31 mg/kg, respectively. All of the samples were collected four feet or less bgs. Subsequent over-excavation activities resulted in the removal and disposal of approximately 100 tons of soil from the site in March 1991 (Chevron, 1991).

Additional soil assessment was conducted by Bechtel Environmental Inc.(BEI) in October 1991 to collect deeper samples from the observed hydrocarbon-bearing soil in the area of the pump islands, and to assess other areas within the site. Seven exploratory soil borings (B1 - B7) were advanced in select areas at the site. Eighteen soil samples were submitted for laboratory analysis. Maximum concentrations of TPHg and benzene were 412 mg/kg and 0.012 mg/kg, respectively, in sample B5-D5. Boring B5 was located near the southwestern pump island in the area of sample PI3-A. The two concentrations appear correlative at the five foot depth for this location.

Boring B7 was located near the southeastern pump island in the area of sample PI1-A. Three samples collected from boring B7 were submitted for laboratory analysis. Detectable concentrations of TPHg and BTEX were not reported in these samples. The results of this assessment seem to indicate that soil excavation in this area was effective.

In February 1993, BEI installed groundwater monitoring wells MW-1, MW-2, and MW-3. These wells were installed cross-gradient, up-gradient, and down-gradient with respect to the dispenser islands. Additionally, two vadose zone wells were installed in the vicinity of boring B5 and sample PI3-A. Soil samples analyzed during the drilling of all of the well locations did not contain detectable concentrations of TPHg or BTEX. Initial sampling of the groundwater wells on February 11, 1993 resulted in non-detect concentrations for TPHg and BTEX in all three wells (BEI, 1993).

Groundwater monitoring was conducted from 1993 through 1995. Reported concentrations of TPHg and BTEX in samples from wells MW-1 and MW-3 were low and isolated. Concentrations of TPHg in samples from well MW-2 were initially below the detection limits before exhibiting an increasing trend starting in August 1994. The maximum concentration of TPHg in well MW-2 was 1,400 ug/l. Benzene concentrations in all wells were stable or non-detectable throughout the monitoring period and never exceeded 10 ug/l (Alton, 1995).

On March 1, 1994, BEI conducted a one-day soil-vapor extraction (SVE) test using vadose wells VW-1 and VW-2. Four extracted air samples were submitted for laboratory analysis. Maximum non-methane TPHg and benzene concentrations detected in the air samples collected at this time were 109 parts per million (ppm) and 45 parts per billion (ppb), respectively. Non-methane hydrocarbon mass removal rates ranged from approximately 0.38 to 2.06 lbs/day. Calculated radii of influence were approximately 100 feet at both extraction wells (BEI, 1994).

Concentrations of tetrachloroethene (PCE) and/or trichloroethene (TCE) were detected in all groundwater samples collected from wells MW-1 through MW-3 that were analyzed for those compounds. In the OCHCA closure letter dated January 4, 1996, it was stated that no known source for these analytes exists at the site and no further action regarding these analytes was required.

In 1996 the OCHCA issued a Remedial Action Completion Certificate confirming the completion of site investigation and remedial action at the site. This letter also addressed the detection of TCE/PCE in groundwater samples. The OCHCA required no further action related to the release at the site (OCHCA, 1996).

In 1996 all existing wells were abandoned (BEI, 1996).

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In 1998 Atlas Environmental Engineering, Inc. (Atlas) conducted soil sampling in conjunction with UST relining and dispenser and piping upgrade activities. Soil samples were collected from two to three feet bgs below each dispenser. Sample D3 exhibited TPHg, benzene, and MTBE concentrations of 2,950 mg/kg, 14.3 mg/kg, and 44.0 mg/kg, respectively. A subsequent sample was collected at this location to assess the vertical limits of the hydrocarbon-bearing soil. Sample D3-5 was collected at five feet bgs. D3-5 exhibited non-detect concentrations of TPHg, benzene, and MTBE. Sample D5 was collected at a depth of two to three feet bgs near the southwestern dispenser. Maximum TPHg, BTEX, and MTBE concentrations were 2,630 mg/kg, 33.6 mg/kg, 11.3 mg/kg, respectively. A sample collected from 4.5 feet bgs at this location (D5-4.5) exhibited low concentrations of TPHg, benzene, and MTBE (Atlas, 1998).

On November 24, 1998, Atlas advanced six exploratory soil borings around the USTs in order to assess that portion of the site. Samples were collected at approximately 20 feet bgs in all borings. None of the target analytes were detected in any of the analyzed samples.

A new OCHCA case (98UT93) was subsequently assigned to the site.

In 2000, Harding Lawson Associates (HLA) conducted assessment activities at the site. Five soil borings (SB-1 through SB-5) were advanced near the dispenser islands. Maximum concentrations of TPHg, BTEX, and MTBE were 55J mg/kg, 0.019 mg/kg, 0.66 mg/kg, 0.24 mg/kg, 1.3 mg/kg, and 9.92 mg/kg, respectively (HLA, 2000).

In 2001, Harding ESE, Inc. (Harding) conducted additional assessment activities at the site. Nine soil borings (DP-1 through DP-9) were advanced to collect soil and groundwater samples. The maximum concentrations of volatile fuel hydrocarbons (VFH [analogous to TPHg]), BTEX, and MTBE in soil were 20 mg/kg, 0.15 mg/kg, 0.23 mg/kg, 16 mg/kg, 2.2 mg/kg, and 2.8 mg/kg, respectively. Maximum detected concentrations of VFH, benzene, toluene, MTBE, tertiary amyl methyl ether (TAME), and tertiary butyl ether (TBA) in grab groundwater samples collected from the borings were 230 ug/l, 3.3 ug/l, 13 ug/l, 15,000 ug/l, 84 ug/l, and 860 ug/l, respectively (Harding, 2001a).

In 2001, Harding installed four groundwater monitoring wells at the site. The maximum concentrations of TPHg, benzene, toluene, MTBE, TAME, and TBA in groundwater during the initial sampling were 450 ug/l, 1.8 ug/l, 13 ug/l, 189 ug/l, 8.1 ug/l, and 178 ug/l, respectively (Harding, 2001b).

Quarterly groundwater monitoring of the current well network has been ongoing since September 15, 2001.

GROUNDWATER MONITORING SUMMARY

Prior to the closure of OCHCA case number 91UT065 in 1996, groundwater monitoring was conducted on nine occasions during the period between February 1993 and August 1995. Wells MW-1 through MW-3 were sampled for TPHg, BTEX, PCE, TCE, and dichloro-diflouro methane. Chemical analytical data indicated that the highest concentrations were detected in the samples collected from well MW-3. The maximum TPHg and benzene concentrations were 1,400 ug/l and 8.8 ug/l, respectively. There are currently four wells located within the central portion of the site surrounding the dispenser islands comprising the groundwater monitoring network. Quarterly groundwater monitoring of the current well network at the site has been ongoing since September 2001. Hydrocarbon concentrations in groundwater have generally shown a stable or decreasing trend in all wells.

POINT ATTENUATION RATE ANALYSIS

Point attenuation rate analysis for MtBE and TBA in groundwater is presented in Appendix 1. Calculations were performed following the methods described in the November, 2002 United States Environmental Protection Agency (US EPA) Ground Water Issue publication by Newell, et al (US EPA, 2002). Mann-Kendall statistical analysis indicates that all wells show either a decreasing trend (depleting plume) or no trend (stable plume) with >90% confidence.

Calculation of the time required for concentrations of MtBE and TBA to attenuate to the MCL of 0.013 mg/l for MTBE and the Notification Level of 0.012 for TBA, results in the following:

Well I.D.	Time from 9/14/2001 for attenuation		Projected year when attenuation will be achieved	
	MTBE (0.013 mg/L)	TBA (0.012 mg/l)	MTBE	TBA
MW-10	5.43 years	3.16 years	~2007	~2005
MW-11	11.83 years	7.16 years	~2012	~2009
MW-12	0.17 years	3.71 years	~2002	~2006
MW-12 (last 6 events)	4.06 years	3.75 years	~2006	~2006
MW-13	1.38 years	1.04 years	~2003	~2002
MW-13 (last 6 events)	4.34 years	3.82 years	~2006	~2006

These results suggest that observed concentrations of MtBE and TBA in groundwater will attenuate or have already attenuated to below MCLs and Notification Levels towards the end of 2006 in all wells with the exception of MW-11. Current groundwater analytical data support these projected attenuation rates.

ADDITIONAL NATURAL ATTENUATION PARAMETER ANALYSIS

Biodegradation of fuel hydrocarbons and oxygenates is mainly limited by electron acceptor availability, and generally will continue until all of the contaminants biochemically accessible to the microbes are destroyed. Electron donors such as BTEX and oxygenates supply the electrons and are simultaneously degraded/destroyed by these chemical processes. Indicators of electron acceptor availability for the aerobic environment that exists in the subsurface at the site include dissolved oxygen (DO), nitrate, and sulfate. Evaluation of the concentrations of these biochemical indicators suggests that the potential for continued aerobic degradation of hydrocarbons in the groundwater is significant. Groundwater samples were collected on nine occasions from all wells at the site in order to evaluate the geochemical environment and the potential for degradation processes to occur. A summary of the findings is presented below. Historical data are included in Table 2.

- **Dissolved Oxygen (DO):** Dissolved oxygen is the most thermodynamically favored electron acceptor used by microbes for the biodegradation of organic carbon molecules. During aerobic respiration, DO concentrations decrease as the carbon source is destroyed. DO concentrations in groundwater generally range from 0 (anoxic) to approximately 15 mg/L. DO in the groundwater

beneath the site was measured at concentrations ranging from 5.33 mg/L to 10.69 mg/L. The minimum concentrations of DO in samples collected at the site generally correspond to periods where elevated TPHg and MTBE concentrations were reported, suggesting that oxygen was being consumed by the hydrocarbons during degradation.

- **Nitrate:** Nitrate is an electron acceptor in aerobic degradation processes. Depletion of nitrate in impacted wells relative to non-impacted wells is indicative of hydrocarbon destruction. Concentrations of nitrate at the site ranged from non-detect to 8.9 mg/L. Well MW-10 exhibited the highest nitrate concentration, suggesting that nitrate is not yet contributing to the degradation of hydrocarbons due to the prevalence of dissolved oxygen acting as the primary electron acceptor.
- **Sulfate:** Sulfate is an electron acceptor in aerobic degradation processes. Sulfate depleted groundwater is indicative of hydrocarbon destruction. Sulfate concentrations at the site ranged from 160 mg/L to 360 mg/L. Well MW-10 exhibited the highest sulfate concentration, suggesting that sulfate, similar to the case with nitrate, is a secondary pathway for the degradation of hydrocarbons at the site.
- **Oxidation-Reduction Potential:** Positive oxidation-reduction potential (ORP) measurements indicate that oxidizing conditions exist in the groundwater, providing suitable conditions for natural attenuation of dissolved hydrocarbon compounds. ORP measurements at the site ranged from -116 mV to 349 mV.
- **Ferrous Iron:** Concentrations of ferrous iron in groundwater at the site ranged from non-detectable to 8.8 mg/l. Wells down- and cross-gradient from the dispensers (MW-10, MW-11, and MW-12) exhibited the lowest concentrations of ferrous iron. Upgradient well MW-13 has exhibited relative enrichment of ferrous iron, suggesting that hydrocarbon degradation is occurring through aerobic rather than anaerobic processes.

The results of hydrocarbon and geochemical analysis of groundwater samples collected at the site suggest that the conditions are suitable for aerobic natural attenuation of dissolved hydrocarbon compounds.

CLOSURE RATIONALE

- Soil at the site has been adequately characterized both vertically and laterally. Delineation of the extent of soils containing hydrocarbon concentrations has been completed to low to non-detect levels. Exploratory borings have been advanced adjacent to, as well as up-gradient and down-gradient of the dispenser areas and USTs. Additionally, numerous borings were located in other portions of the site during assessment. A total of 159 soil samples have been analyzed from depths ranging from two feet to forty feet below bgs. Table 1 shows the historical analytical data from all soil samples collected during assessment activities.
- Groundwater monitoring has been conducted during two time periods. Groundwater samples have been collected from monitoring networks associated with both of the OCHCA cases. A total of twenty-eight (28) quarterly sampling events have been conducted. Quarterly groundwater sampling is ongoing. Table 2 shows the historical groundwater analytical data reported from all groundwater samples collected during assessment and monitoring activities. Analysis of MtBE and TBA concentrations vs. time in groundwater indicate that decreasing trends are occurring, especially within the last six quarters of monitoring. Attenuation of MtBE to below MCLs, and TBA to below California Department of Health Services Notification Levels, is anticipated within 1-2 years in all wells except MW-11, which is projected to occur by 2012. Analytical data for parameters associated with natural attenuation suggests that conditions at the site are favorable for continued biodegradation of hydrocarbon compounds.
- No drinking water wells or aquifers, or surface waters have been or are likely to be affected. The site is not located above any of the established aquifers in the Orange County Groundwater Basin. Plates 8 through 11 present figures from the Orange County Water District's Groundwater Management Plan from March 2004. These plates indicate that the site does not present a significant threat to groundwater. Additionally, the site is located on the seaward side of the Talbert Injection Barrier and the Newport-Inglewood Fault Zone, both of which impede the flow of groundwater to aquifers within the basin.
- Previous subsurface investigations indicate the site is underlain by approximately 5 feet of a mixture of silt, clay, and sand, followed by fine-grained poorly sorted sand to a maximum explored depth of 40 feet bgs. Bedrock has not been encountered during the advancement of any of the borings, but outcrops have been mapped in lower sections of Newport Mesa. Bedrock beneath the site has been described as consolidated and exhibiting low permeability.
- Approximately 100 tons of soil were removed during over-excavation activities.

Based on the available site history and soil and groundwater assessment data, SAIC requests regulatory case closure for this site.

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If you have any questions, please contact the SAIC Project Manager, Mr. Daryl Pessler, at (714) 257-6404, or the Chevron Project Manager, Mr. Mike Bauer, at (714) 671-3207.

Respectably Submitted,

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

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Attachments: Table 1 – Analytical Laboratory Results for Soil Samples
Table 2 – Historical Groundwater Analysis Results
Plate 1 – Site Location Map
Plate 2 – Site Vicinity Map
Plate 3 – Site Plan Showing Station Features, Soil Borings, and Monitoring Wells
Plate 4 – Areal Geology Map
Plate 5 – Generalized Regional Geologic Cross Section
Plate 6 – Geologic Cross Section A-A'
Plate 7 – Geologic Cross Section B-B'
Plate 8 - Orange County Groundwater Basin Map
Plate 9 – Aquifer Cross Section A-A'
Plate 10 - Orange County Groundwater Basin Aquifer Extent Map
Plate 11 – Chloride Ion Concentration Contour Map
Appendix 1 -- Point Attenuation Analysis for MTBE and TBA in Groundwater

cc: Mr. Mike Bauer, CEMC
SAIC Project File

Limitation of Use: SAIC's investigation was restricted to records made available by CEMC or third parties during the investigation. Because the investigation consisted of evaluating a limited supply of information, SAIC may not have identified all potential items of concern and, therefore, SAIC warrants only that the project activities under this contract have been performed within the parameters and scope communicated by CEMC and reflected in the contract. SAIC has made no independent investigations concerning the accuracy or completeness of the information relied upon. This report is intended to be used in its entirety. Taking or using in any way excerpts from this report are not permitted and any party doing so does so at its own risk.

A full and complete determination as to the presence or absence of residual contamination cannot be made under the scope of this monitoring and SAIC is not making such a determination, either expressly or impliedly, in this report.

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TABLES

Table 1. Analytical Laboratory Results for Soil Samples
 Chevron Environmental Management Company
 Former Chevron Service Station No. 9-0819
 195 East 17th Street, Costa Mesa, California

Sample ID	Date Sampled	TPHg (mg/kg)	Benzene ² (mg/kg)	Toluene ² (mg/kg)	Ethyl-benzene ² (mg/kg)	Total Xylenes ² (mg/kg)	MtBE ³ (mg/kg)	MtBE 8260 (mg/kg)	DPE ⁴ (mg/kg)	ETBE ⁵ (mg/kg)	TAME ⁶ (mg/kg)	MtBE ⁷ (mg/kg)	TBA ⁸ (mg/kg)	TOTAL LEAD ⁹ (mg/kg)	PCE ¹⁰ (mg/kg)	TCE ¹¹ (mg/kg)	cis-1,2-DCE ¹² (mg/kg)	OTHER ANALYTES ¹³ (mg/kg)
PI1-A-3.5	3/7/1991	1300	2.3	24	20	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
PI2-A-3	3/7/1991	65	0.67	1.0	0.82	5.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
PI3-A-4	3/7/1991	660	0.31	0.21	5.3	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B1-D5	10/2/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B1-D10	10/2/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B1-D15	10/2/1991	<1.0	<0.005	0.007	<0.006	0.007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B1-D20	10/2/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B1-D25	10/2/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B1-D30	10/2/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B1-D31	10/2/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B1-D35	10/2/1991	<1.0	<0.005	0.008	<0.006	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B2-D5	10/3/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B2-D10	10/3/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B2-D15	10/3/1991	<1.0	<0.005	<0.005	<0.006	<0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B2-D20	10/3/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B2-D25	10/3/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B2-D30	10/3/1991	<1.0	<0.005	<0.005	<0.006	<0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B3-D5	10/3/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B3-D10	10/3/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B3-D15	10/3/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B3-D20	10/3/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B3-D25	10/3/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B3-D30	10/3/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B4-D5	10/4/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B4-D10	10/4/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B4-D15	10/4/1991	2.05	<0.005	<0.005	<0.006	0.0038	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B4-D20	10/4/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B4-D25	10/4/1991	<1.0	<0.005	<0.005	<0.006	<0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B4-D30	10/4/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B4-D35	10/4/1991	<1.0	0.012	<0.005	<0.006	0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B5-D5	10/4/1991	412.95	<0.005	0.377	1.802	1.301	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B5-D10	10/4/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B5-D15	10/4/1991	1.83	<0.005	<0.005	<0.006	<0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B5-D20	10/4/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B5-D25	10/4/1991	<1.0	<0.005	<0.005	<0.006	<0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B5-D30	10/4/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B5-D35	10/4/1991	1.16	0.008	0.044	<0.006	0.038	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B6-D5	10/4/1991	23.85	<0.005	0.160	<0.006	0.148	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B6-D10	10/4/1991	<1.0	<0.005	<0.005	<0.006	<0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B6-D15	10/4/1991	<1.0	<0.005	<0.005	<0.006	<0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B6-D20	10/4/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B6-D25	10/4/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B6-D30	10/4/1991	<1.0	<0.005	<0.005	<0.006	<0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B7-D5	10/4/1991	<1.0	<0.005	<0.005	<0.006	<0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B7-D10	10/4/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B7-D15	10/4/1991	<1.0	<0.005	<0.005	<0.006	<0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B7-D20	10/4/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B7-D25	10/4/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
B7-D30	10/4/1991	<1.0	<0.005	<0.005	<0.006	<0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MW1-D5	2/8/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	4	NA	NA	
MW1-D10	2/8/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MW1-D20	2/8/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MW1-D35	2/8/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MW2-D5	2/9/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MW2-D10	2/9/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MW2-D25	2/9/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MW2-D35	2/9/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	<1	NA	NA	NA	

Table 1. Analytical Laboratory Results for Soil Samples
 Chevron Environmental Management Company
 Former Chevron Service Station No. 9-0819
 195 East 17th Street, Costa Mesa, California

Sample ID	Date Sampled	TPHg (mg/kg)	Benzene ² (mg/kg)	Toluene ² (mg/kg)	Ethyl-benzene ² (mg/kg)	Total Xylenes ² (mg/kg)	MtBE ³ (mg/kg)	MtBE 8260 (mg/kg)	DPE ⁴ (mg/kg)	ETBE ⁵ (mg/kg)	TAME ⁶ (mg/kg)	MtBE ⁷ (mg/kg)	TBA ⁸ (mg/kg)	TOTAL LEAD ⁹ (mg/kg)	PCE ¹⁰ (mg/kg)	TCE ¹¹ (mg/kg)	cis-1,2-DCE ¹² (mg/kg)	OTHER ANALYTES ¹³ (mg/kg)
MW3-D5	2/9/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MW3-D10	2/9/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	1	NA	NA	NA	
MW3-D25	2/9/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MW3-D35	2/9/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
VW1-D5	2/8/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
VW1-D10	2/8/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
VW1-D20	2/8/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
VW1-D30	2/8/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	<1	NA	NA	NA	
VW2-D5	2/10/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	6	NA	NA	NA	
VW2-D10	2/10/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
VW2-D20	2/10/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
VW2-D35	2/10/1993	<10	<0.005	<0.005	<0.005	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
D-1	10/30/1998	96	0.428	0.754	1.31	3.27	5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-2	10/30/1998	42.5	0.201	0.249	0.507	1.88	3.19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-3	10/30/1998	2950	14.3	138	77.9	304	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-4	10/30/1998	3.7	0.028	<0.005	0.016	0.217	0.572	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-5	10/30/1998	2630	33.6	5.49	92.8	106	11.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-1	10/30/1998	<1.0	<0.005	<0.005	<0.005	<0.015	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-2	10/30/1998	2.1	<0.005	<0.005	<0.005	<0.015	0.032	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-3	10/30/1998	<1.0	<0.005	<0.005	<0.005	<0.015	0.031	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D-3-5	11/18/1998	<1.0	<0.005	<0.005	<0.005	<0.015	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-5-4.5	11/18/1998	5.8	0.009	0.005	0.078	0.361	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B1-20	11/24/1998	<1.0	<0.005	<0.005	<0.005	<0.015	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B2-20	11/24/1998	<1.0	<0.005	<0.005	<0.005	<0.015	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B3-19	11/24/1998	<1.0	<0.005	<0.005	<0.005	<0.015	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B4-18	11/24/1998	<1.0	<0.005	<0.005	<0.005	<0.015	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B5-19	11/24/1998	<1.0	<0.005	<0.005	<0.005	<0.015	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B6-20	11/24/1998	<1.0	<0.005	<0.005	<0.005	<0.015	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-1-5	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-1-10	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-1-15	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-2-5	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	<0.035	NA	NA	NA	NA	NA	NA	NA	0.019	<0.005	<0.010	ND
SB-2-10	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	<0.035	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.005	<0.010	ND
SB-2-15	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	0.180	<0.005	NA	NA	NA	NA	NA	NA	<0.005	<0.005	<0.010	ND
SB-2-20	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	0.460	0.035	NA	NA	NA	NA	NA	NA	<0.005	<0.005	<0.010	ND
SB-2-25	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	0.630	0.042	NA	NA	NA	NA	NA	NA	<0.005	<0.005	<0.010	ND
SB-2-30	5/18/2000	553	0.019	0.66	0.24	1.30	21.50	9.92	NA	NA	NA	NA	NA	NA	0.038	<0.020	0.090	ND
SB-2-35	5/18/2000	<10	0.012	0.064	0.014	0.070	0.770	1.370	NA	NA	NA	NA	NA	NA	<0.005	<0.005	<0.010	ND
SB-3-10	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	0.240	0.063	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-3-15	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	0.160	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-3-20	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-3-25	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	0.320	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-3-30	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	0.094	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-3-35	5/18/2000	<10	<0.005	0.006	<0.005	<0.015	1.70	4.63	NA	NA	NA	NA	NA	<0.005	0.0098	0.0097J	ND	
SB-3-40	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	0.250	0.026	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-4-10	5/18/2000	13	<0.005	0.015	0.19	0.057	0.0051	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-4-15	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	0.450	0.190	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-4-20	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-4-25	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-4-30	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	0.390	1.290	NA	NA	NA	NA	NA	<0.005	<0.005	<0.010	ND	
SB-4-35	5/18/2000	<10	<0.005	0.008	<0.005	0.017	2.200	3.320	NA	NA	NA	NA	NA	0.014	0.016	0.011	ND	
SB-4-40	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-5-5	5/18/2000	<10	<0.005	0.015	<0.005	<0.015	0.083	0.016	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-5-10	5/18/2000	8.93	<0.005	<0.005	0.01	<0.015	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-5-15	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-5-20	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-5-25	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-5-30	5/18/2000	<10	<0.005	<0.005	<0.005	<0.015	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1. Analytical Laboratory Results for Soil Samples
 Chevron Environmental Management Company
 Former Chevron Service Station No. 9-0819
 195 East 17th Street, Costa Mesa, California

Sample ID	Date Sampled	TPHg (mg/kg)	Benzene ² (mg/kg)	Toluene ² (mg/kg)	Ethyl-benzene ² (mg/kg)	Total Xylenes ² (mg/kg)	MtBE ³ (mg/kg)	MtBE 8260 (mg/kg)	DPE ⁴ (mg/kg)	ETBE ⁵ (mg/kg)	TAME ⁶ (mg/kg)	MtBE ⁷ (mg/kg)	TBA ⁸ (mg/kg)	TOTAL LEAD ⁹ (mg/kg)	PCE ¹⁰ (mg/kg)	TCE ¹¹ (mg/kg)	cis-1,2-DCE ¹² (mg/kg)	OTHER ANALYTES ¹³ (mg/kg)
DP1-5	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP1-10	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP1-15	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP1-20	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP1-25	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP1-30	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP1-35	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP2-5	12/19/00	20	0.15	0.23	0.37	2.2	NA	1.6	<0.5	<0.5	<0.5	2.8	<10	NA	NA	NA	NA	NA
DP2-10	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	0.38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP2-15	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP2-20	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP2-25	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP2-30	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP2-35	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP3-5	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP3-10	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	0.18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP3-15	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP3-20	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP3-25	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP3-30	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP3-35	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	0.27	<0.01	<0.01	<0.01	0.16	<0.2	NA	NA	NA	NA	NA
DP4-5	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP4-10	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP4-15	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP4-20	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP4-25	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	0.11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP4-30	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	0.15	<0.005	<0.005	<0.005	0.096	0.22	NA	NA	NA	NA	NA
DP4-35	12/19/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP5-5	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP5-10	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP5-15	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP5-20	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP5-25	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP5-30	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP5-35	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	0.17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP6-5	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP6-10	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP6-15	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP6-20	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP6-25	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP6-30	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP7-5	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP7-10	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP7-15	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP7-20	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP7-25	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP7-30	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP7-35	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP8-5	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP8-10	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP8-15	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP8-20	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP8-25	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP8-30	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP8-35	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP9-5	12/20/00	<1.0	0.026	<0.005	16	<0.015	NA	0.61	<0.025	<0.025	<0.025	0.57	<0.5	NA	NA	NA	NA	NA
DP9-10	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	0.51	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP9-15	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1. Analytical Laboratory Results for Soil Samples
 Chevron Environmental Management Company
 Former Chevron Service Station No. 9-0819
 195 East 17th Street, Costa Mesa, California

Sample ID	Date Sampled	TPHg (mg/kg)	Benzene ² (mg/kg)	Toluene ² (mg/kg)	Ethyl-benzene ² (mg/kg)	Total Xylenes ² (mg/kg)	MtBE ³ (mg/kg)	MtBE ⁸²⁶⁰ (mg/kg)	DPE ⁴ (mg/kg)	ETBE ⁵ (mg/kg)	TAME ⁶ (mg/kg)	MtBE ⁷ (mg/kg)	TBA ⁸ (mg/kg)	TOTAL LEAD ⁹ (mg/kg)	PCE ¹⁰ (mg/kg)	TCE ¹¹ (mg/kg)	cis-1,2-DCE ¹² (mg/kg)	OTHER ANALYTES ¹³ (mg/kg)
DP9-20	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	0.089	NA	NA	NA	NA	NA	NA	NA	NA	NA	
DP9-25	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	0.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	
DP9-30	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	0.086	NA	NA	NA	NA	NA	NA	NA	NA	NA	
DP9-35	12/20/00	<1.0	<0.005	<0.005	<0.005	<0.015	NA	<0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Notes: Chemical testing performed by Del Mar Analytical (Del Mar), Irvine, California.

DP1-5 = the value "5" denotes the depth at which the sample was collected in feet below ground surface

¹ Total petroleum hydrocarbons as gasoline or volatile fuel hydrocarbons; analyzed by EPA Method 8015B.

² Analyzed by EPA Method 8021B.

³ Methyl tertiary butyl ether; analyzed by EPA Method 8021B.

⁴ Di-isopropyl ether; analyzed by EPA Method 8260B.

⁵ Ethyl tertiary butyl ether; analyzed by EPA Method 8260B.

⁶ Tertiary amyl methyl ether; analyzed by EPA Method 8260B.

⁷ Methyl tertiary butyl ether; analyzed by EPA Method 8260B.

⁸ Tertiary butyl alcohol; analyzed by EPA Method 8260B.

⁹ Total lead analyzed by EPA Method 604.

¹⁰ Tetrachloroethene (PCE) analyzed by EPA Method 8021B.

¹¹ Trichloroethene (TCE) analyzed by EPA Method 8021B.

¹² cis-1,2-Dichloroethene (cis-1,2-DCE) analyzed by EPA Method 8021B.

¹³ Other Analytes analyzed by EPA Method 8021B.

mg/kg = milligrams per kilogram

NA = Not analyzed.

ND = Not detected.

J = value between method detection limit and laboratory reporting limit

Table 2. Historical Groundwater Analyses Results
Chevron Environmental Management Company
Service Station No. 9-0819
195 E. 17th St., Costa Mesa, California

Sample ID	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	MtBE (µg/L)	TBA (µg/L)
DP1	12/19/00	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<50
DP2	12/19/00	120	<10	13	<10	<20	<25	<25	<25	740	<250
DP3	12/19/00	230	<100	<100	<100	<200	<250	<250	<250	10,000	<2500
DP4	12/19/00	<50	<2.0	2.6	<2.0	<4.0	<5.0	<5.0	<5.0	47	<50
DP5	12/20/00	170	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	84	15,000	860
DP6	12/20/00	61	3.3	3.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<50
DP7	12/20/00	140	2.2	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<50
DP8	12/20/00	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<50
DP9	12/20/00	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	49	<50
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MW-1	02/08/93	<100*	<0.3	<0.3	<0.3	<0.6	NA	NA	NA	NA	NA
MW-1	02/11/93	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-1	11/12/93	--	--	--	--	--	NA	NA	NA	NA	NA
MW-1	12/30/93	ND	ND	2.2	ND	ND	NA	NA	NA	NA	NA
MW-1	02/21/94	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-1	05/05/94	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-1	08/12/94	ND	1.5	1.5	0.8	2.2	NA	NA	NA	NA	NA
MW-1	11/23/94	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-1	02/01/95	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-1	05/01/95	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-1	08/07/95	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
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MW-2	02/08/93	<100*	<0.3	<0.3	<0.3	<0.6	NA	NA	NA	NA	NA
MW-2	02/11/93	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-2	11/12/93	--	--	--	--	--	NA	NA	NA	NA	NA
MW-2	12/30/93	ND	1.9	ND	ND	ND	NA	NA	NA	NA	NA
MW-2	02/21/94	ND	8.8	0.4	1.4	ND	NA	NA	NA	NA	NA
MW-2	05/05/94	ND	14	3.0	20	ND	NA	NA	NA	NA	NA
MW-2	08/12/94	500	5.7	5.3	42	10	NA	NA	NA	NA	NA

Table 2. Historical Groundwater Analyses Results
Chevron Environmental Management Company
Service Station No. 9-0819
195 E. 17th St., Costa Mesa, California

Sample ID	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	MtBE (µg/L)	TBA (µg/L)
MW-2	11/23/94	ND	5.6	1.6	1.7	2.9	NA	NA	NA	NA	NA
MW-2	02/01/95	720	3.1	ND	ND	ND	NA	NA	NA	NA	NA
MW-2	05/01/95	1,400	ND	1.3	3.1	2.8	NA	NA	NA	NA	NA
MW-2	08/07/95	1,200	5.7	4.4	1.8	2.8	NA	NA	NA	NA	NA
MW-3	02/08/93	<100*	<0.3	<0.3	<0.3	<0.6	NA	NA	NA	NA	NA
MW-3	02/11/93	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-3	11/12/93	--	--	--	--	--	NA	NA	NA	NA	NA
MW-3	12/30/93	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-3	02/21/94	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-3	05/05/94	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-3	08/12/94	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-3	11/23/94	ND	0.4	0.3	ND	ND	NA	NA	NA	NA	NA
MW-3	02/01/95	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-3	05/01/95	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-3	08/07/95	75	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-10	9/15/2001	107	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	ND<1	168	146
MW-10	12/17/2001	706	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	8.8	1,020	ND<10
MW-10	2/26/2002	723	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	3.6	473	60
MW-10	5/31/2002	2,040	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	19	2,300	1,360
MW-10	9/11/2002	727	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	5.2	696	96
MW-10	12/5/2002	1,000	1.5	4.3 J	ND<5	4.5 J	ND<1	ND<1	6.1	662	89
MW-10	3/11/2003	340	ND<5	ND<5	ND<5	ND<5	ND<10	ND<10	ND<10	560	ND<50
MW-10	5/20/2003	300	ND<4	ND<4	ND<4	ND<4	ND<8	ND<8	ND<8	310	ND<40
MW-10	8/20/2003	120	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	51	ND<10
MW-10	11/19/2003	350 J	ND<5	ND<5	ND<5	ND<5	ND<10	ND<10	ND<10	450	ND<50
MW-10	2/17/2004	130	ND<5	ND<5	ND<5	ND<5	ND<10	ND<10	ND<10	36	ND<50
MW-10	5/11/2004	140	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	27	ND<10

Table 2. Historical Groundwater Analyses Results
Chevron Environmental Management Company
Service Station No. 9-0819
195 E. 17th St., Costa Mesa, California

Sample ID	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	MtBE (µg/L)	TBA (µg/L)
MW-10	8/25/2004	130	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	56	ND<10
MW-10	11/8/2004	140	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	100	ND<10
MW-10	1/31/2005	190	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	83	ND<10
MW-10	4/21/2005	160	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	83	ND<10
MW-10	8/1/2005	210	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	53	ND<10
MW-10	10/20/2005	170	ND<0.28	ND<0.36	ND<0.25	ND<0.52	ND<0.25	ND<0.28	ND<0.33	63	ND<3.1
MW-10	1/17/2006	270	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	21	ND<5
MW-11	9/15/2001	450	1.8	13	ND<5	ND<5	ND<1	ND<1	8.1	189	178
MW-11	12/17/2001	1,260	1.5	20	14	91	ND<1	ND<1	8.7	1,060	ND<10
MW-11	2/26/2002	5,000	4.3	24	23	514	ND<1	ND<1	36.0	3,680	633
MW-11	5/31/2002	1,390	ND<10	ND<50	ND<50	269	ND<10	ND<10	15	1,080	302
MW-11	9/11/2002	396	ND<1	ND<5	ND<5	7.1	ND<1	ND<1	ND<1	83	40
MW-11	12/5/2002	718	1.0	ND<5	9.6	38	ND<1	ND<1	4.6	319	154
MW-11	3/11/2003	430	ND<4	ND<4	ND<4	ND<4	ND<8	ND<8	ND<8	270	ND<40
MW-11	5/20/2003	510	ND<4	ND<4	ND<4	ND<4	ND<8	ND<8	ND<8	340	42 J
MW-11	8/20/2003	ND<2,500	ND<50	ND<50	ND<50	ND<50	ND<100	ND<100	ND<100	3,000	ND<500
MW-11	11/19/2003	1000 J	ND<20	ND<20	ND<20	ND<20	ND<40	ND<40	ND<40	1,400	ND<200
MW-11	2/17/2004	980 J	ND<10	ND<10	ND<10	ND<10	ND<20	ND<20	ND<20	1,200	ND<100
MW-11	5/11/2004	430 J	ND<5	ND<5	ND<5	ND<5	ND<10	ND<10	ND<10	430	86 J
MW-11	8/25/2004	430 J	ND<5	ND<5	ND<5	ND<5	ND<10	ND<10	ND<10	550	98 J
MW-11	11/8/2004	530 J	ND<10	ND<10	ND<10	ND<10	ND<20	ND<20	ND<20	610	110 J
MW-11	1/31/2005	550	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	760	170
MW-11	4/21/2005	720	ND<20	ND<20	ND<20	ND<20	ND<40	ND<40	ND<40	1,700	ND<200
MW-11	8/1/2005	350	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	110	20 J
MW-11	10/20/2005	230	ND<0.28	ND<0.36	ND<0.25	ND<0.52	ND<0.25	ND<0.28	ND<0.33	40	8.9J
MW-11	1/17/2006	160	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	28	ND<5

Table 2. Historical Groundwater Analyses Results
Chevron Environmental Management Company
Service Station No. 9-0819
195 E. 17th St., Costa Mesa, California

Sample ID	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	MtBE (µg/L)	TBA (µg/L)
MW-12	9/15/2001	ND<100	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	ND<1	18	ND<10
MW-12	12/17/2001	ND<100	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	ND<1	76	ND<10
MW-12	2/26/2002	ND<100	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	ND<1	69	31
MW-12	5/31/2002	ND<100	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	ND<1	30	ND<10
MW-12	9/11/2002	ND<100	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	ND<1	26	ND<10
MW-12	12/5/2002	ND<100	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	ND<1	3.1	ND<10
MW-12	3/11/2003	ND<50	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	3.0 J	ND<10
MW-12	5/20/2003	ND<50	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	ND<2	ND<10
MW-12	8/20/2003	ND<50	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	ND<2	ND<10
MW-12	11/19/2003	ND<50	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	ND<2	ND<10
MW-12	2/17/2004	ND<50	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	2.9 J	ND<10
MW-12	5/11/2004	ND<50	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	40	ND<10
MW-12	8/25/2004	ND<250	ND<5	ND<5	ND<5	ND<5	ND<10	ND<10	ND<10	300	ND<50
MW-12	11/8/2004	240	ND<5	ND<5	ND<5	ND<5	ND<10	ND<10	ND<10	340	ND<50
MW-12	1/31/2005	250	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	430	39
MW-12	4/21/2005	120	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	160	14 J
MW-12	8/1/2005	66 J	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	18	ND<10
MW-12	10/20/2005	61J	ND<0.28	ND<0.36	ND<0.25	ND<0.52	ND<0.25	ND<0.28	ND<0.33	13	ND<3.1
MW-12	1/7/2006	40 J	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	7	ND<5
MW-13	9/15/2001	274	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	ND<1	ND<1	ND<10
MW-13	12/17/2001	163	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	ND<1	ND<1	ND<10
MW-13	2/26/2002	112	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	ND<1	ND<1	ND<10
MW-13	5/31/2002	114	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	ND<1	ND<1	ND<10
MW-13	9/11/2002	ND<100	ND<1	ND<5	ND<5	ND<5	ND<1	ND<1	ND<1	ND<1	ND<10
MW-13	12/5/2002	279	1.6	ND<5	ND<5	ND<5	ND<1	ND<1	ND<1	52	ND<10
MW-13	3/11/2003	360	2.8 J	ND<1	10	ND<1	ND<2	ND<2	ND<2	130	18 J
MW-13	5/20/2003	240	1.2 J	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	67	14 J
MW-13	8/20/2003	89 J	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	30	ND<10

Table 2. Historical Groundwater Analyses Results
Chevron Environmental Management Company
Service Station No. 9-0819
195 E. 17th St., Costa Mesa, California

Sample ID	Date Sampled	TPHg ($\mu\text{g}/\text{L}$)	Benzene ($\mu\text{g}/\text{L}$)	Toluene ($\mu\text{g}/\text{L}$)	Ethylbenzene ($\mu\text{g}/\text{L}$)	Total Xylenes ($\mu\text{g}/\text{L}$)	DIPE ($\mu\text{g}/\text{L}$)	ETBE ($\mu\text{g}/\text{L}$)	TAME ($\mu\text{g}/\text{L}$)	MtBE ($\mu\text{g}/\text{L}$)	TBA ($\mu\text{g}/\text{L}$)
MW-13	11/19/2003	160	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	120	13 J
MW-13	2/17/2004	400	2.4 J	ND<2	3.9 J	ND<2	ND<4	ND<4	ND<4	380	58
MW-13	5/11/2004	280 J	ND<5	ND<5	ND<5	ND<5	ND<10	ND<10	ND<10	260	ND<50
MW-13	8/25/2004	340 J	ND<5	ND<5	ND<5	ND<5	ND<10	ND<10	ND<10	490	83 J
MW-13	11/8/2004	640	ND<5	ND<5	ND<5	ND<5	ND<10	ND<10	ND<10	880	92 J
MW-13	1/31/2005	430	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	360	72
MW-13	4/21/2005	140	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	74	ND<10
MW-13	8/1/2005	93 J	ND<1	ND<1	ND<1	ND<1	ND<2	ND<2	ND<2	12	ND<10
MW-13	10/20/2005	64J	ND<0.28	ND<0.36	ND<0.25	ND<0.52	ND<0.25	ND<0.28	ND<0.33	31	ND<3.1
MW-13	1/17/2006	77	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	32	ND<5

Notes: $\mu\text{g}/\text{L}$ = Micrograms per liter

NAPL = Non-aqueous phase liquid

TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8015B or GC/MS (EPA Method 8260B)

MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260

ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260

DIPE = Di-isopropyl ether analyzed by EPA Method 8260

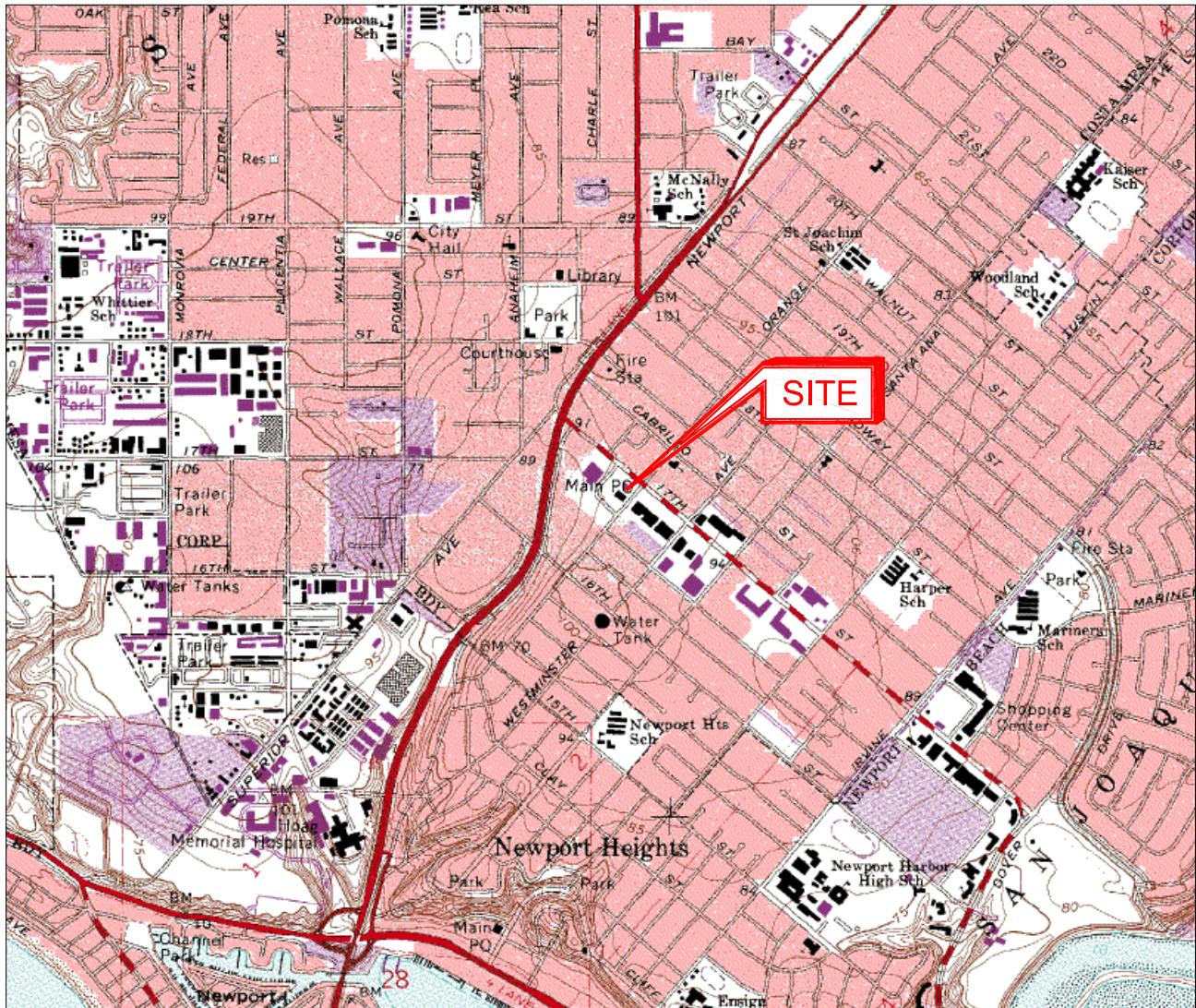
TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260

TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260

J = denotes value between method detection limit and detection limit for reporting purposes

BTEX analyzed by EPA Method 8260 unless noted

PLATES



FILE: X:\Drafting\9-0819\BASE\LOCATION MAP.dwg [Layout]

SCALE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

Chevron Environmental Management Company
FORMER SERVICE STATION NO. 9-0819
195 EAST 17TH STREET
COSTA MESA, CALIFORNIA

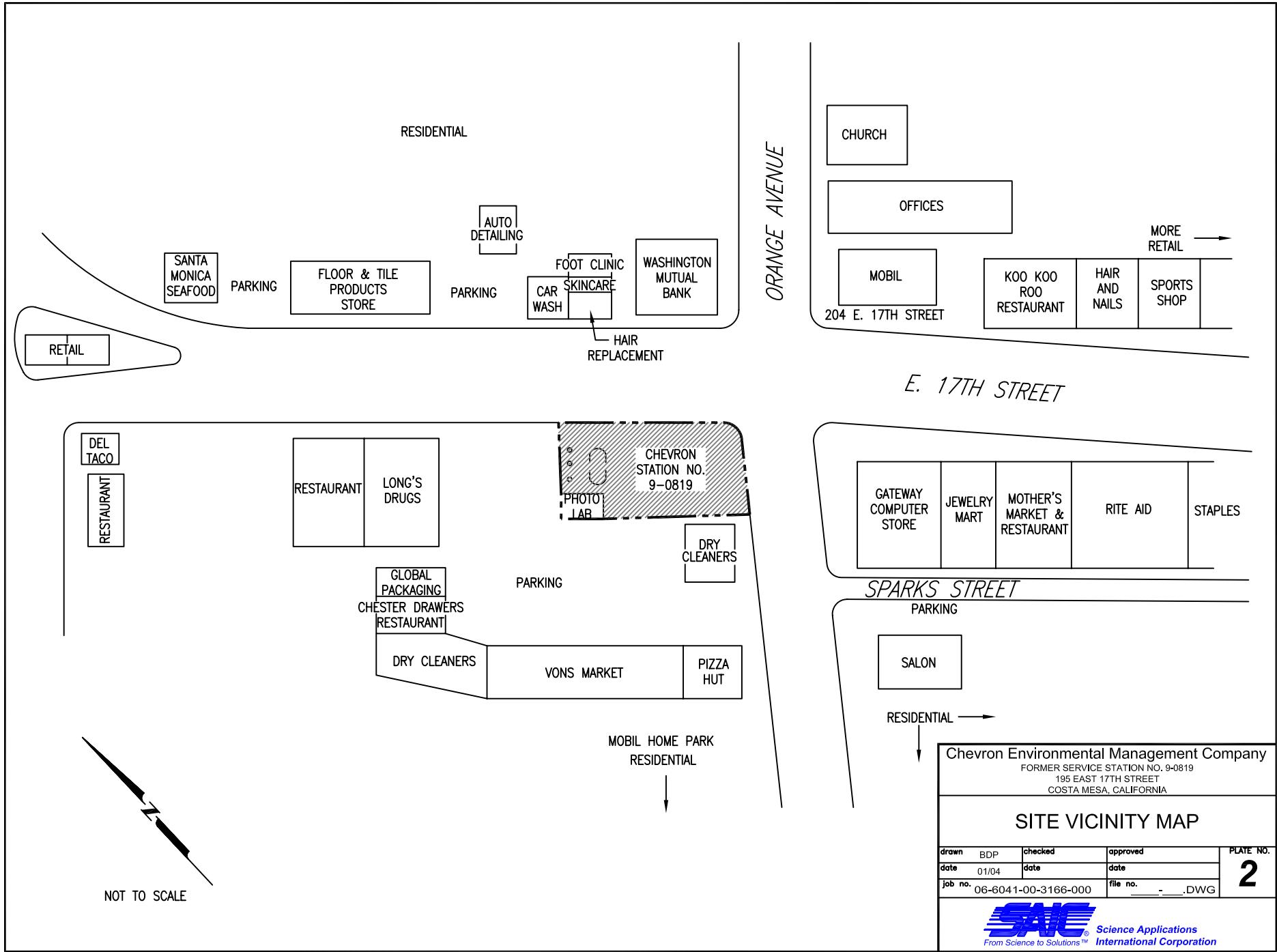
SITE LOCATION MAP

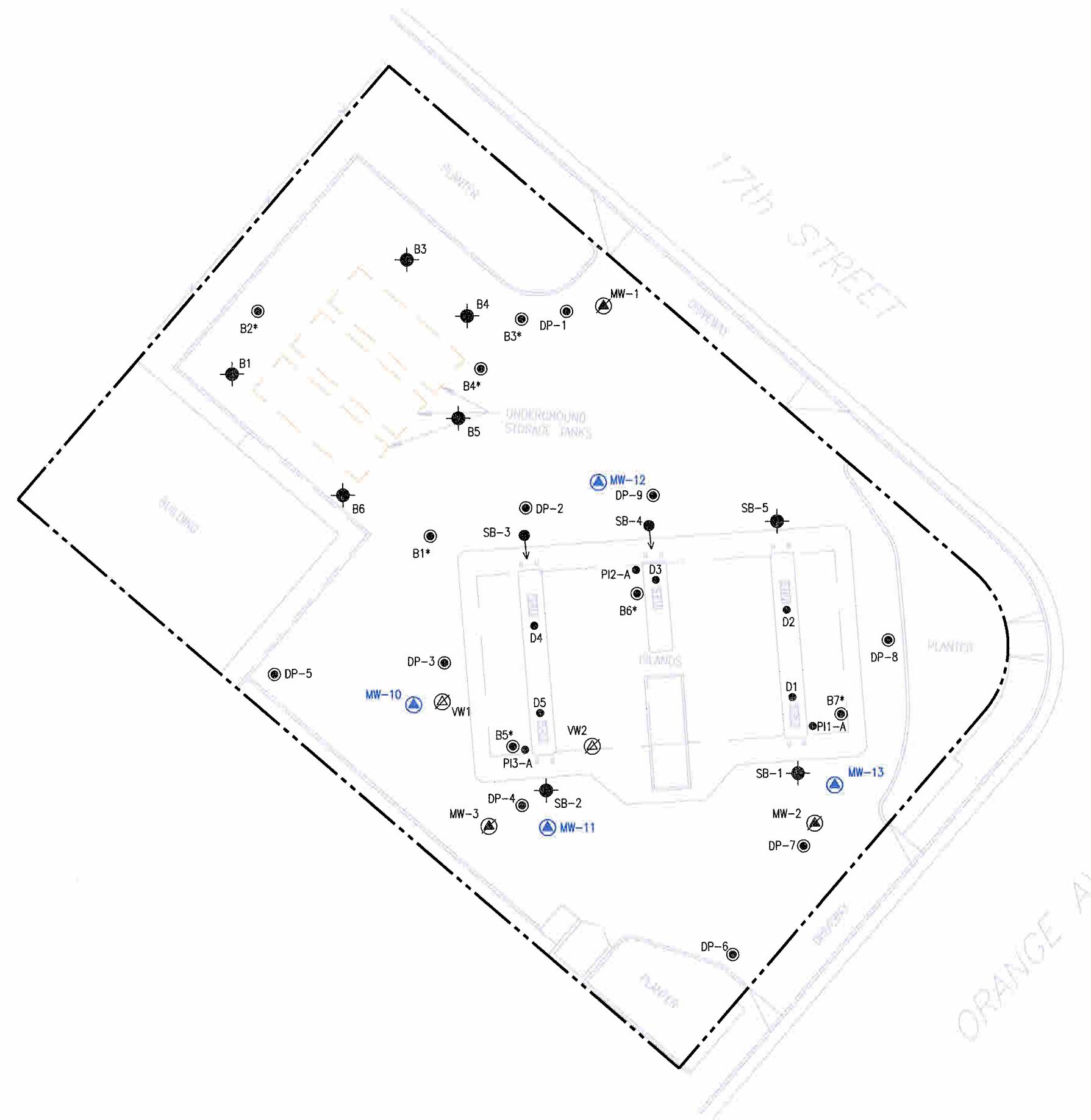
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date	01/04	date	date	1
job no.	06-6041-00-7460-000	file no.	- .DWG	



Science Applications
International Corporation

REFERENCE: USGS 7.5-MINUTE QUADRANGLE, NEWPORT BEACH, CALIFORNIA (PHOTOREVISED 1981)



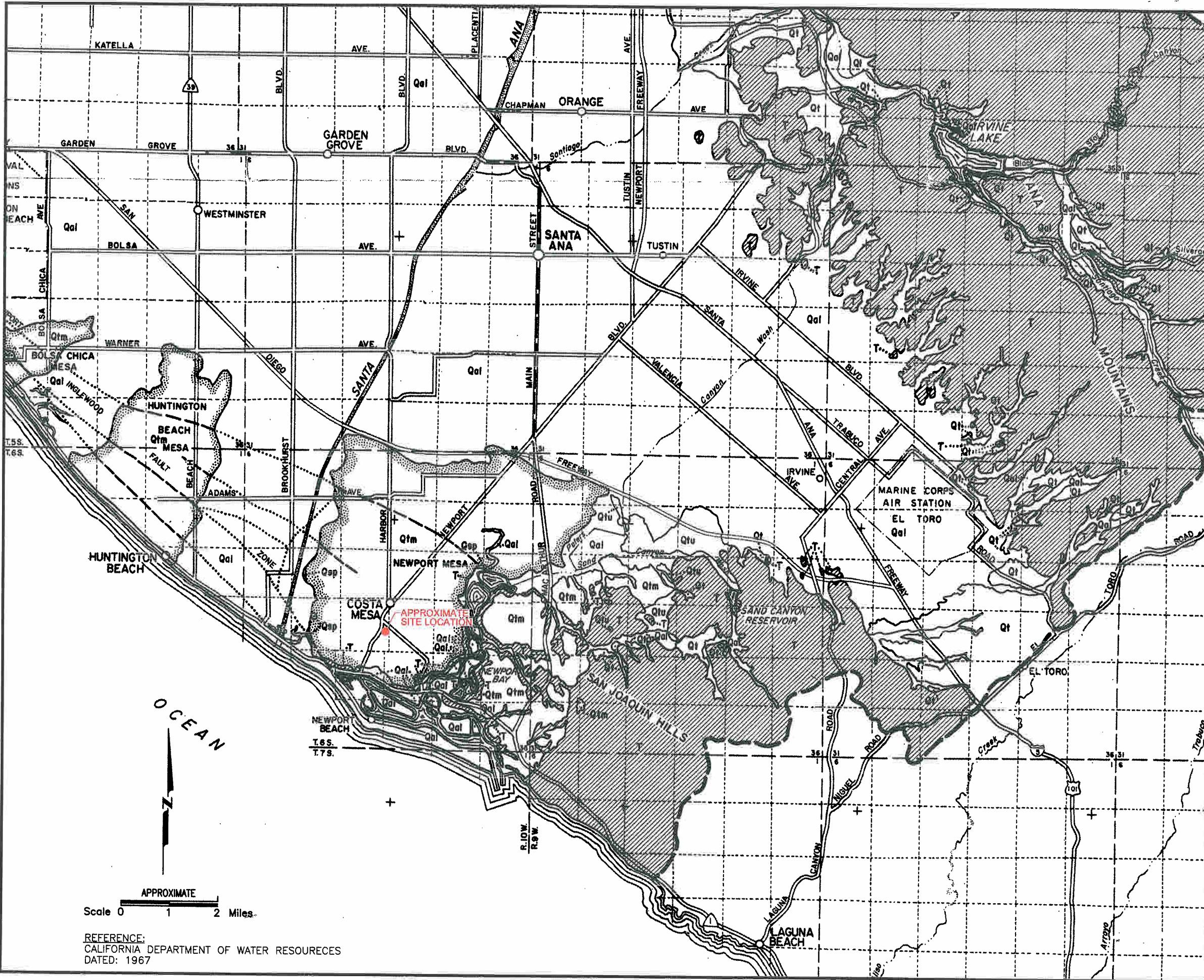
**EXPLANATION**

- (▲) GROUNDWATER MONITORING WELL LOCATION
- (✗) DESTROYED BEI MONITORING WELL LOCATION
- (ⓧ) DESTROYED BEI VENT WELL LOCATION
- (◎) DESTROYED BEI MONITORING WELL LOCATION
- (→) ANGLE BORING LOCATION (30° FROM VERTICAL) (HARDING, 2000)
- (●) BORING LOCATION ([B6] ATLAS, 1998), ([SB-1] HARDING, 2000)
- (◎) DIRECT PUSH SAMPLING LOCATION ([B1*] BEI, 1991), ([DP-1] HARDING, 2000)
- (●) HAND AUGER SOIL SAMPLE LOCATION ([PI1-A] CHEVRON, 1991), ([D1] ATLAS, 1998)

N

APPROXIMATE
Scale 0 10 20 feet

Chevron Environmental Management Company			
SERVICE STATION NO. 9-0819			
195 EAST 17TH STREET			
COSTA MESA, CALIFORNIA			
SITE PLAN SHOWING STATION FEATURES, SOIL BORINGS, AND MONITORING WELLS			
drawn	HDS	checked	approved
date	02/06	date	date
job no.	06-6102-00-7460-070	file no.	90819-002B
PLATE NO.			3
 Science Applications International Corporation			



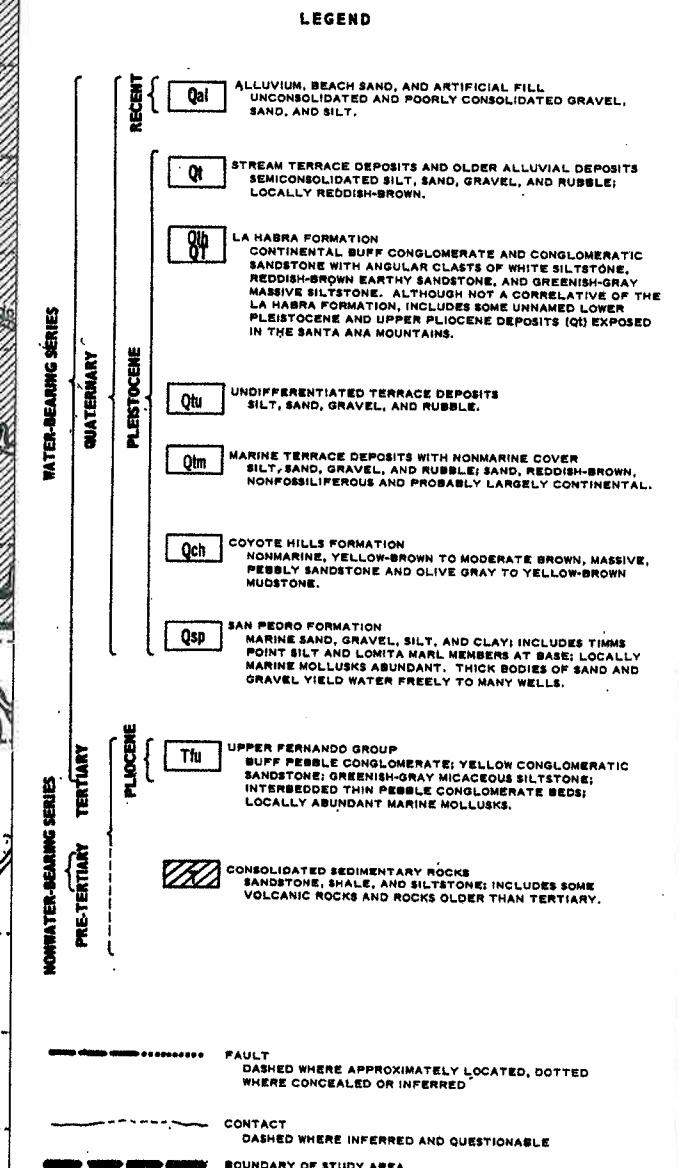
Chevron Environmental Management Company
SERVICE STATION NO. 9-0819
195 EAST 17TH STREET
COSTA MESA, CALIFORNIA

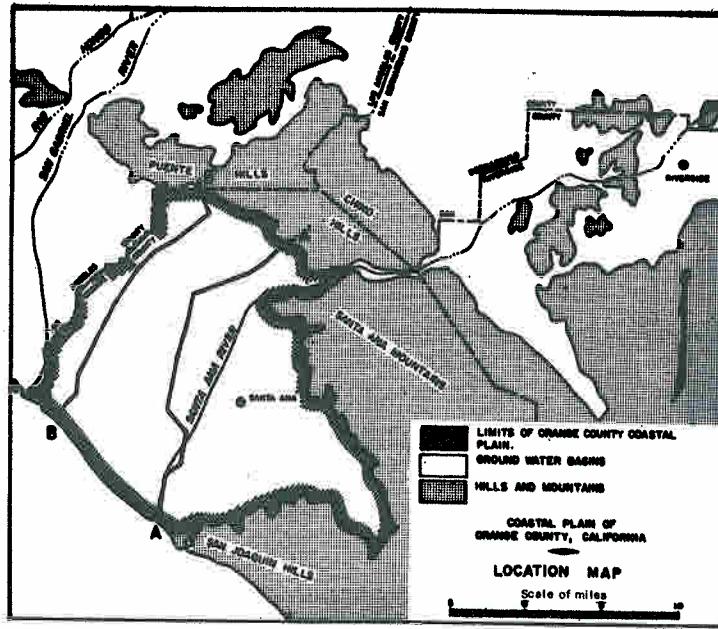
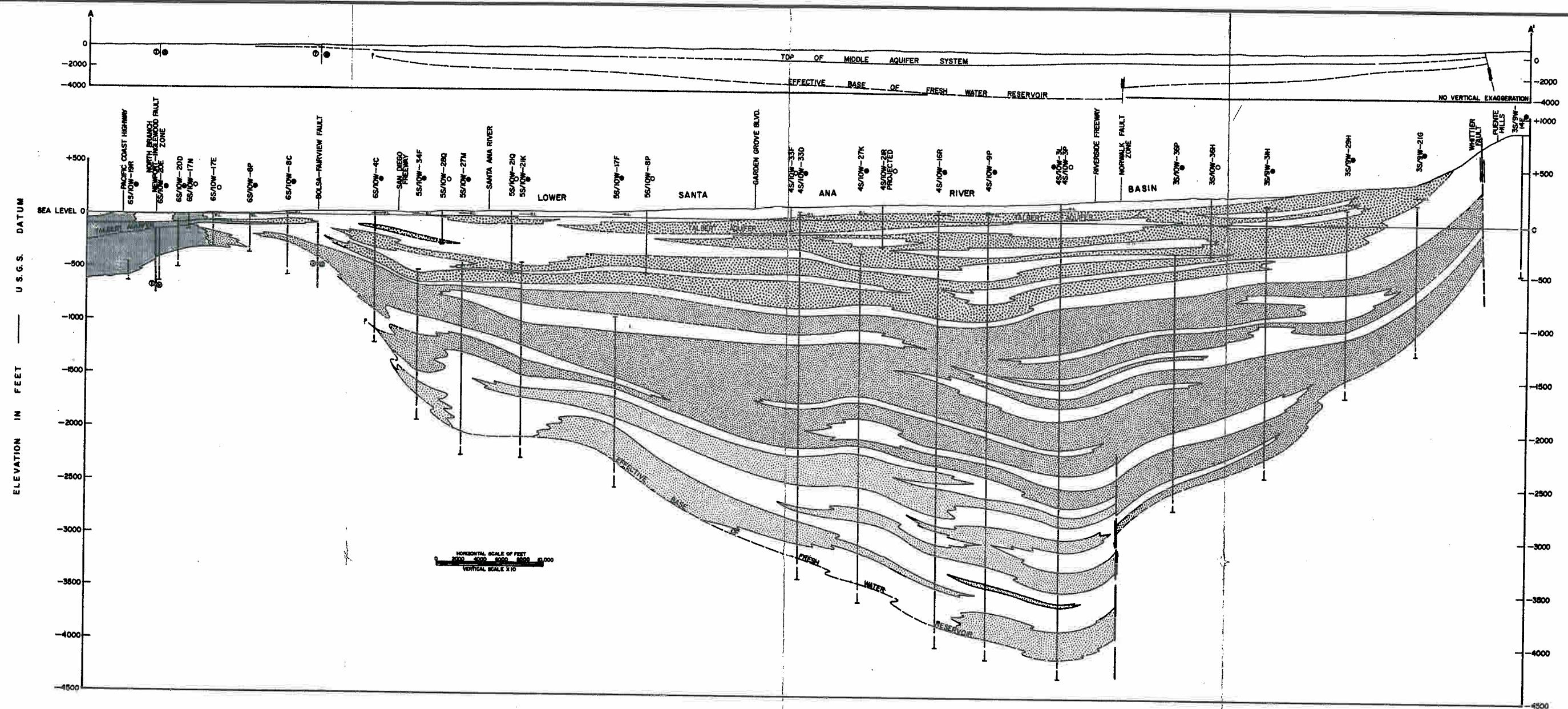
AREAL GEOLOGY MAP

drawn	HDS	checked	approved	PLATE NO.
date	02/06	date	date	4
Job no.	06-6102-00-7460-190	file no.	AREAL GEOLOGY	



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LEGEND:

- [Symbol] UPPER AQUIFER SYSTEM—INCLUDES THE TALBERT AQUIFER.
- [Symbol] MIDDLE AQUIFER SYSTEM—INCLUDES THE MAIN AQUIFER.
- [Symbol] LOWER AQUIFER SYSTEM.
- [Symbol] AQUITARD AND AQUICLADE.
- [Symbol] AQUIFER SALINITY—CHLORIDE ION CONCENTRATION GREATER THAN 500 PARTS PER MILLION.
- WL— WATER LEVEL—APPROXIMATE FOR FALL OF 1965
- FAULT—RELATIVE MOVEMENT SHOWN
① = TOWARD, ② = AWAY
- CONTACT—DASHED WHERE QUESTIONABLE
- 35/9W-25A ELECTRIC LOG OF STRATA
- 4S/10W-3IC DRILLERS' LOG OF STRATA
- INTERVAL OF AVAILABLE WELL LOG INFORMATION
- STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT

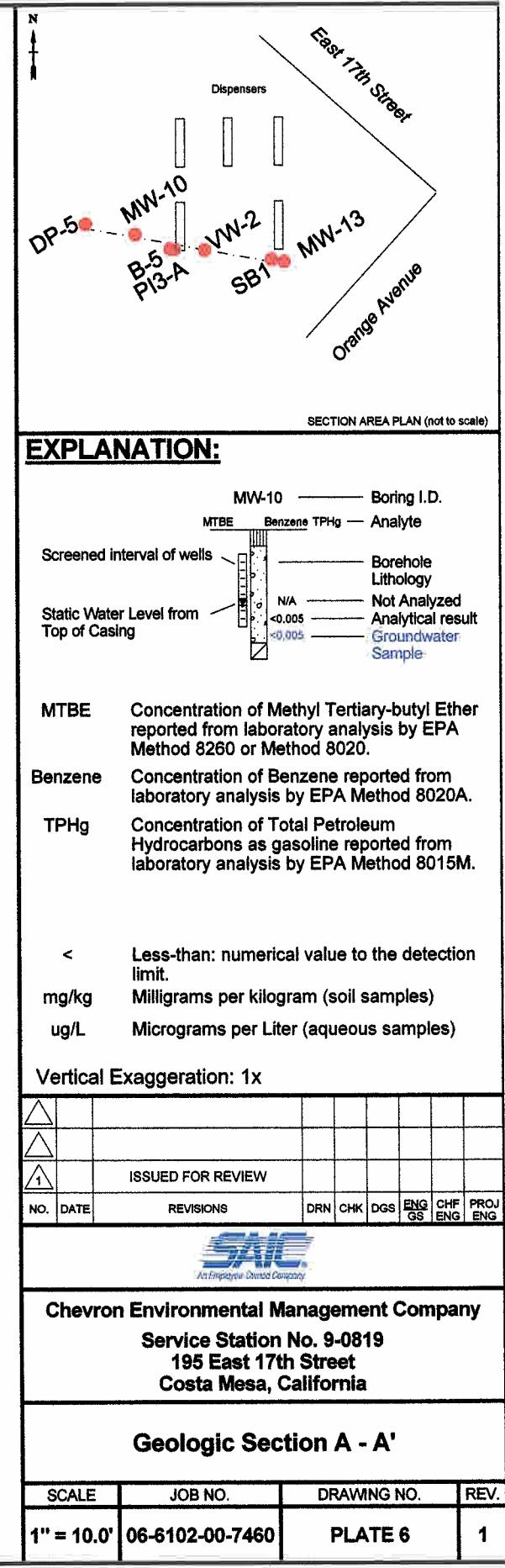
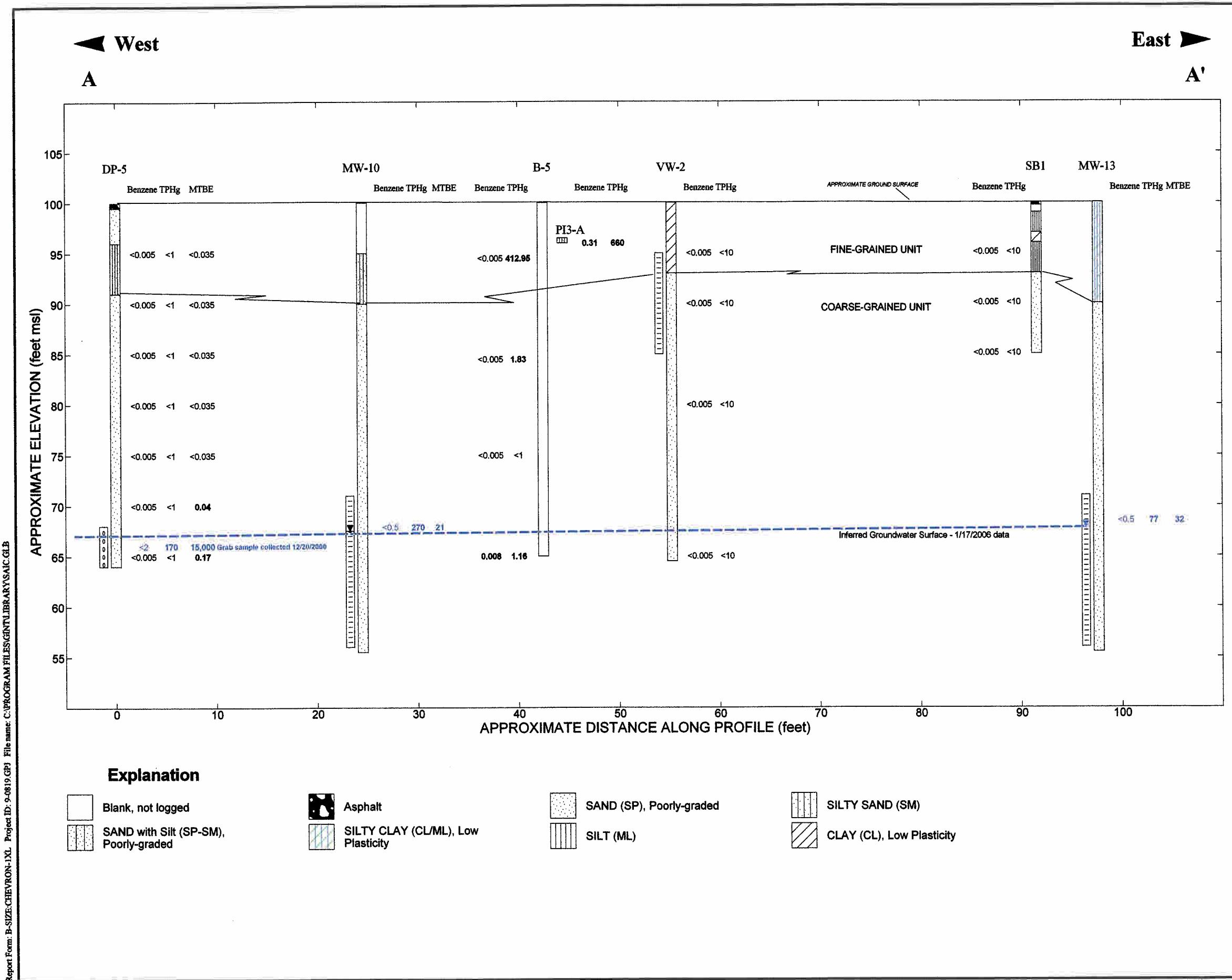
GROUND WATER GEOLOGY OF THE COASTAL PLAIN OF ORANGE COUNTY

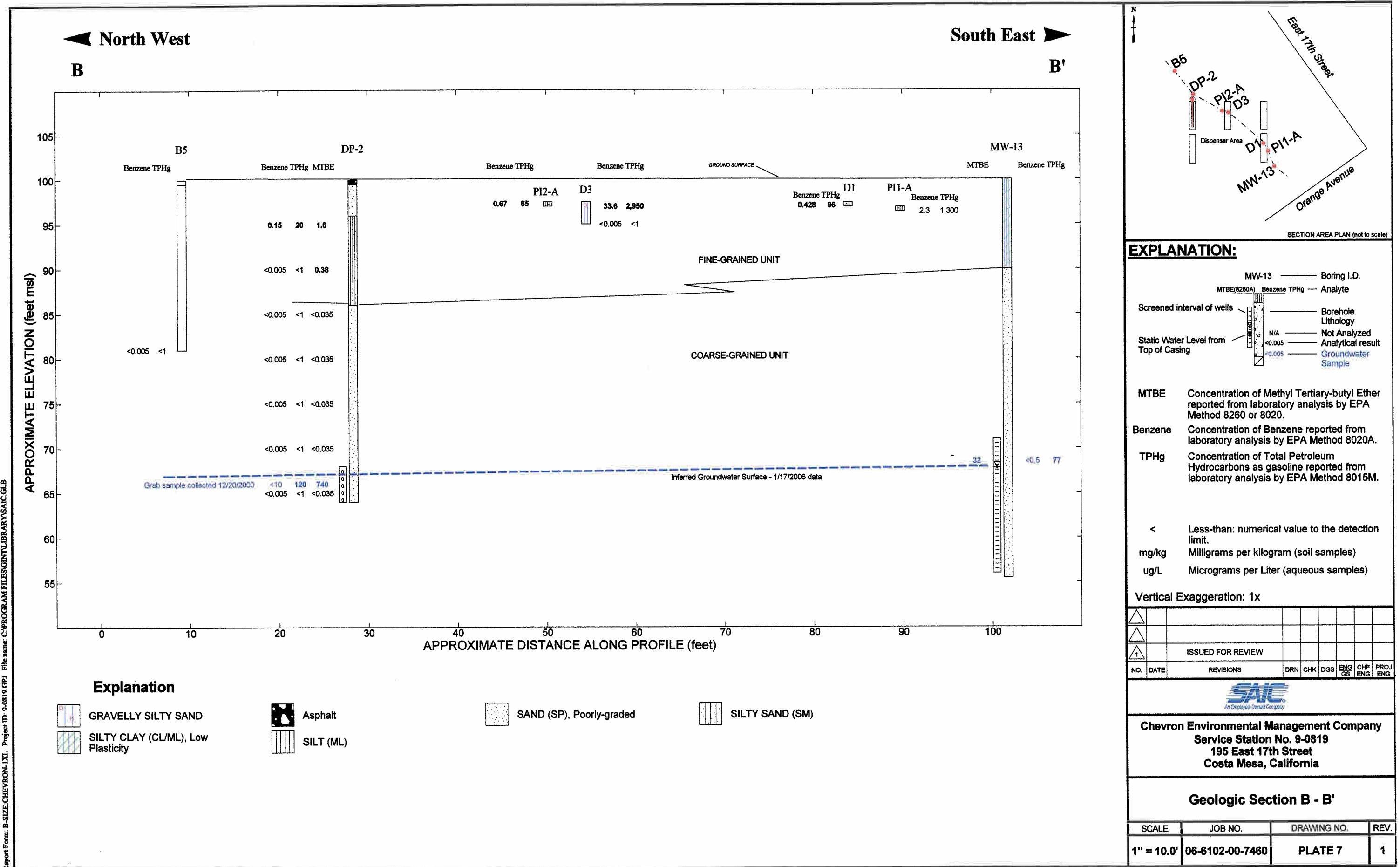
REFERENCE:
CALIFORNIA DEPARTMENT OF WATER RESOURCES
DATED: 1967

Chevron Environmental Management Company
SERVICE STATION NO. 9-0819
195 EAST 17TH STREET
COSTA MESA, CALIFORNIA

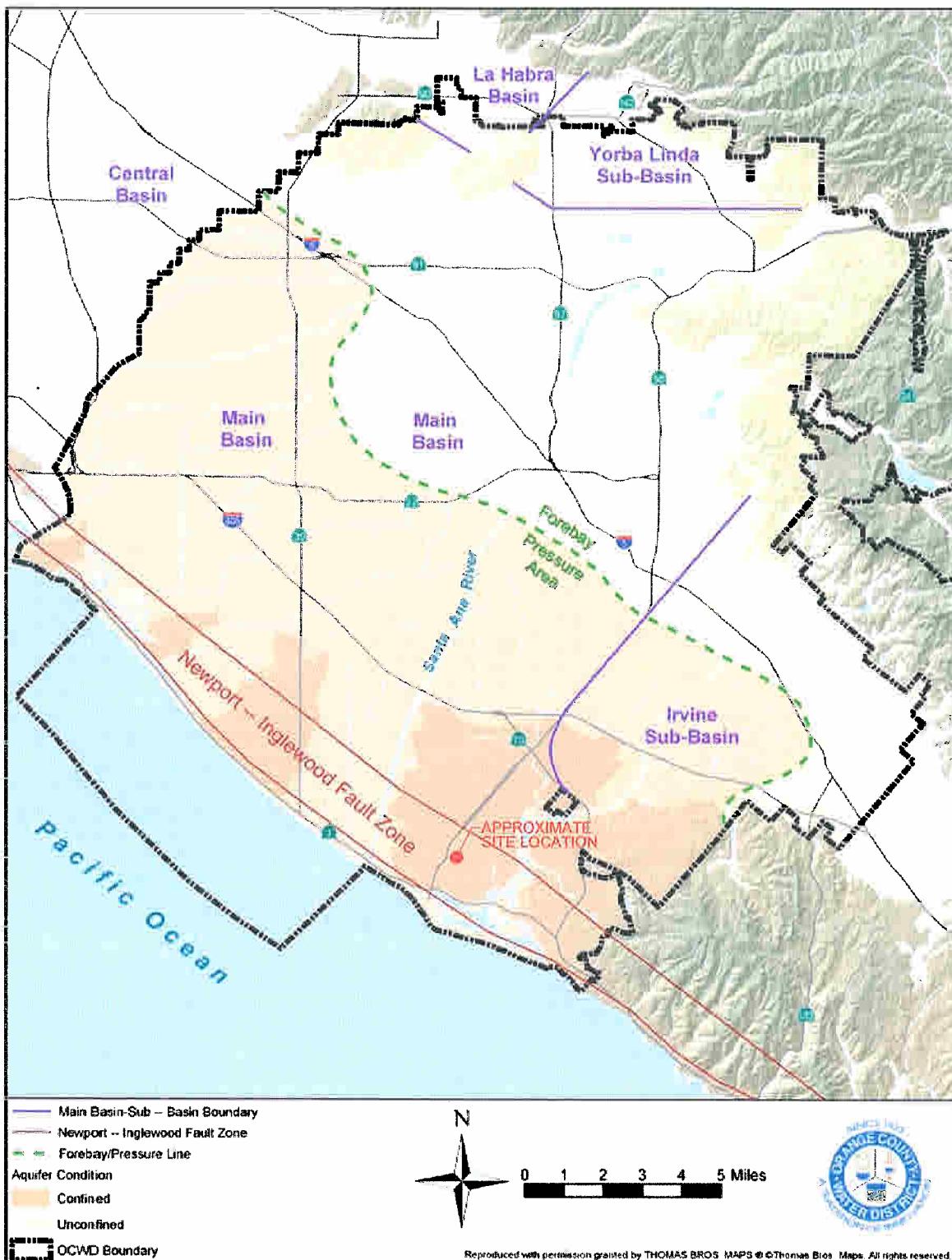
GENERALIZED REGIONAL GEOLOGIC CROSS SECTION

drawn	HDS	checked	approved	PLATE NO.
date	02/06	date	date	5
job no.	06-6102-00-7460-190	file no.	XSECA	





MAP OF THE ORANGE COUNTY GROUNDWATER BASIN



Chevron Environmental Management Company

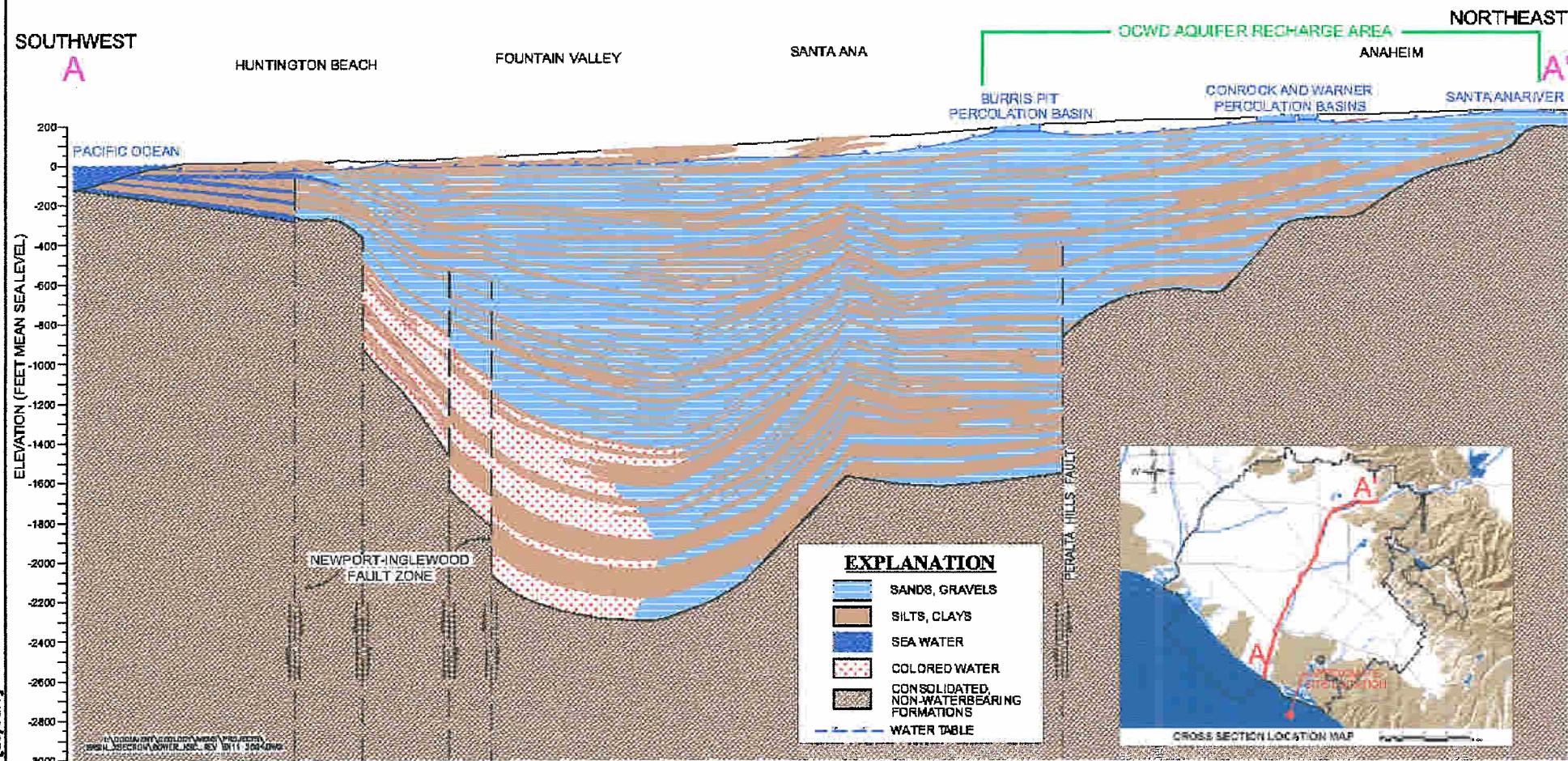
FORMER SERVICE STATION NO. 9-0819
185 EAST 17TH STREET
COSTA MESA, CALIFORNIA

ORANGE COUNTY GROUNDWATER BASIN MAP

DRAWN	HDS	CHECKED	APPROVED	PLATE NO.
DATE 02/06	DATE	DATE	DATE	
JOB NO. 06-6102-00-7460-190	FILE NO.	P40		8

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GEOLOGIC CROSS SECTION THROUGH ORANGE COUNTY GROUNDWATER BASIN



FILE: X:\Draffing\9-0819\FIGURE\P41.DWG [Layout1]

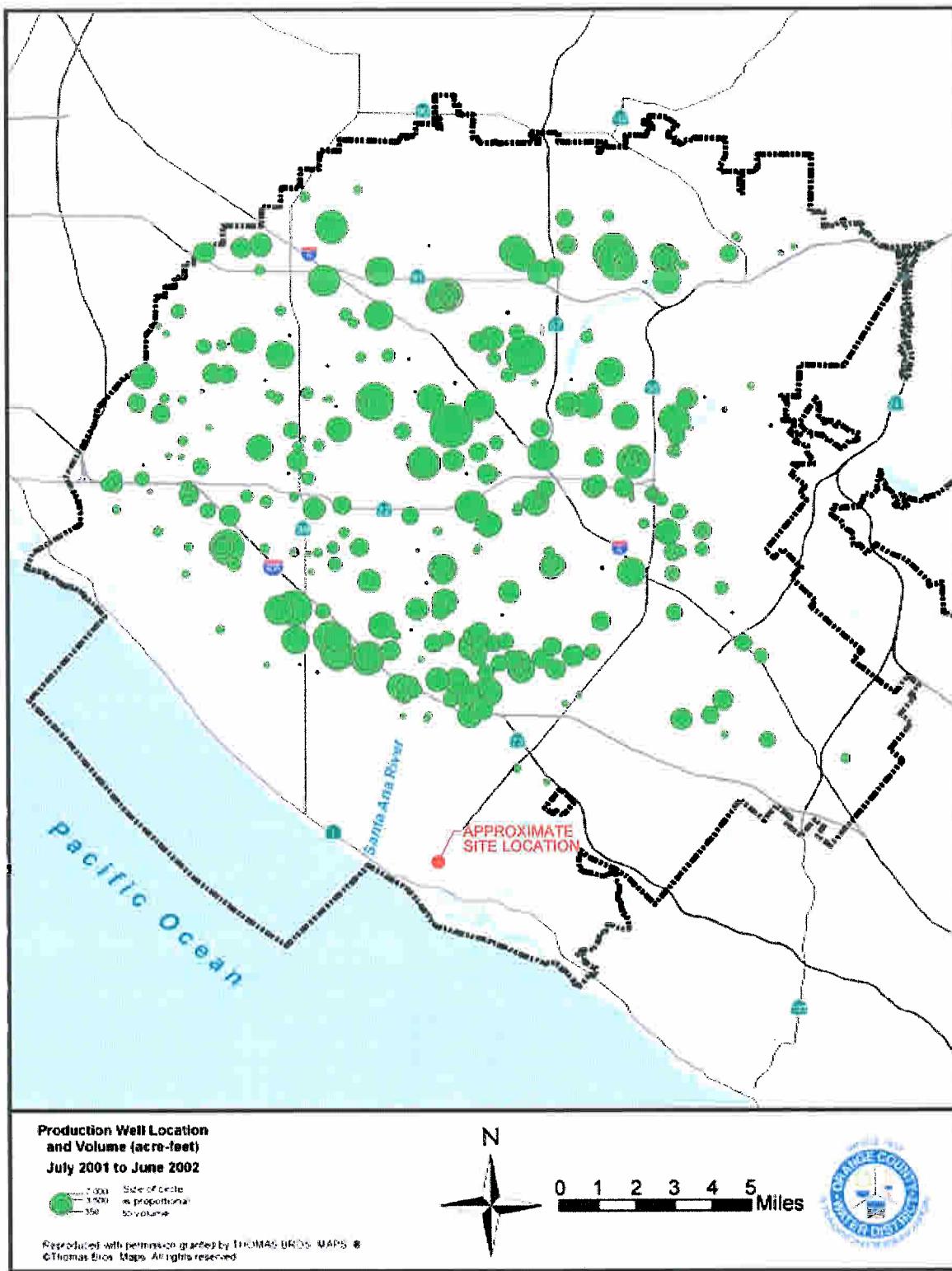
Chevron Environmental Management Company
FORMER SERVICE STATION NO. 9-0819
195 EAST 17TH STREET
COSTA MESA, CALIFORNIA

AQUIFER CROSS SECTION A-A'

DRAWN	HDS	CHECKED	APPROVED	PLATE NO.
DATE 02/06	DATE	DATE		
JOB NO. 06-6102-00-7460-190		FILE NO. P41		9



DISTRIBUTION OF GROUNDWATER PRODUCTION



Chevron Environmental Management Company
FORMER SERVICE STATION NO. 9-0819
185 EAST 17TH STREET
COSTA MESA, CALIFORNIA

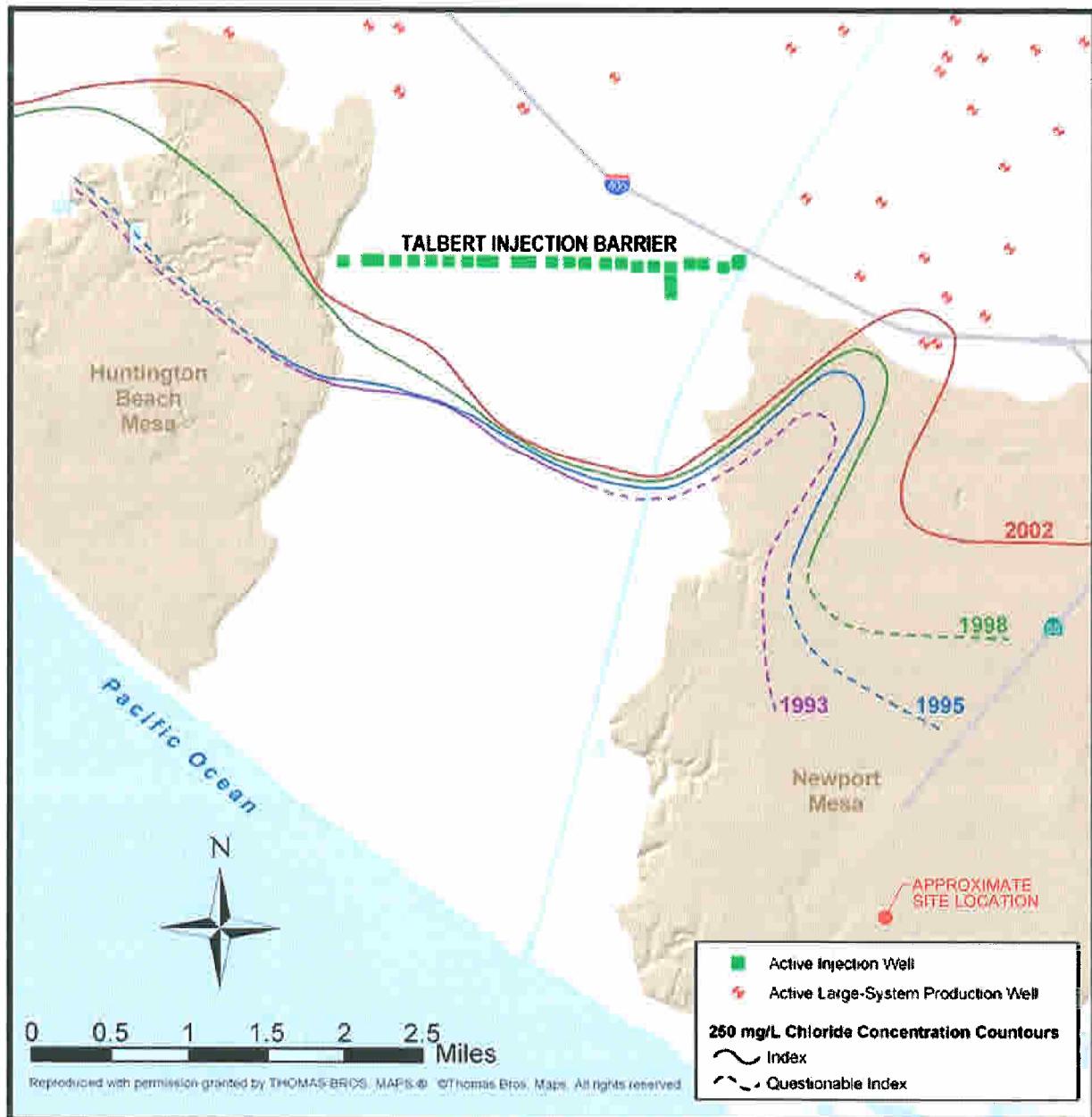
ORANGE COUNTY GROUNDWATER BASIN AQUIFER EXTENT MAP

DRAWN	HDS	CHECKED	APPROVED	PLATE NO.
DATE 02/06	DATE	DATE		
JOB NO. 06-6102-00-7460-190	FILE NO.	P54		10



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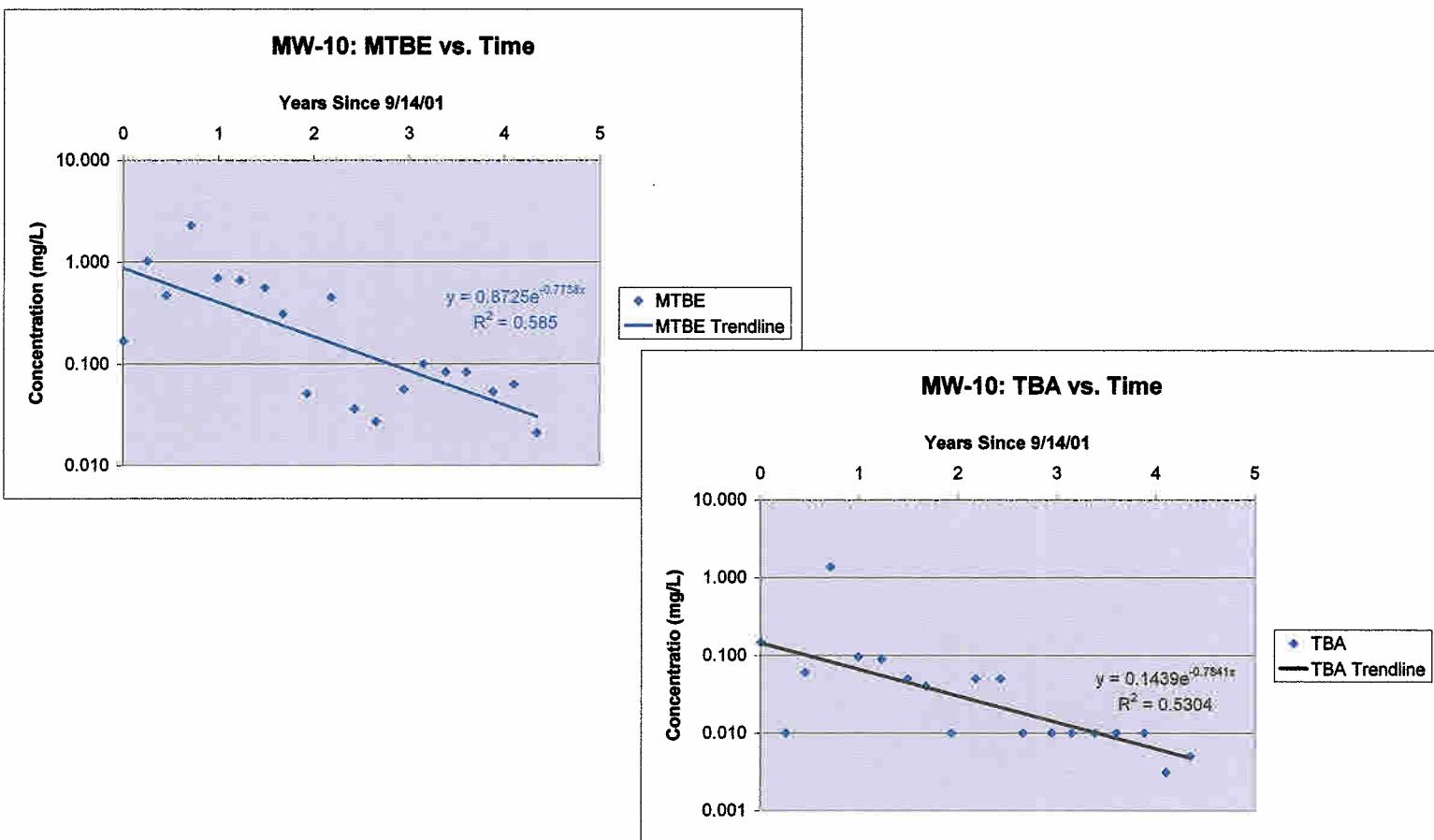
LANDWARD MOVEMENT OF 250 MG/L CHLORIDE CONCENTRATION CONTOUR



APPENDIX 1
POINT ATTENUATION ANALYSIS FOR MTBE IN GROUNDWATER

APPENDIX 1: Attenuation Rate Analysis
 Chevron Environmental Management Company
 Service Station No. 9-0819
 195 E. 17th St., Costa Mesa, California

Well ID	Date Sampled	mtbe mg/l	tba mg/l	years since 9/14/01
	9/14/2001			
MW-10	9/15/2001	0.168	0.146	0.0027397
MW-10	12/17/2001	1.020	0.010	0.26
MW-10	2/26/2002	0.473	0.050	0.45
MW-10	5/31/2002	2.300	1.350	0.71
MW-10	9/11/2002	0.696	0.096	0.99
MW-10	12/5/2002	0.662	0.089	1.22
MW-10	3/11/2003	0.560	0.050	1.49
MW-10	5/20/2003	0.310	0.040	1.68
MW-10	8/20/2003	0.051	0.010	1.93
MW-10	11/19/2003	0.450	0.050	2.18
MW-10	2/17/2004	0.036	0.050	2.43
MW-10	5/11/2004	0.027	0.010	2.66
MW-10	8/25/2004	0.056	0.010	2.95
MW-10	11/8/2004	0.100	0.010	3.15
MW-10	1/31/2005	0.083	0.010	3.38
MW-10	4/21/2005	0.083	0.010	3.60
MW-10	8/1/2005	0.053	0.010	3.88
MW-10	10/20/2005	0.063	0.003	4.10
MW-10	1/17/2006	0.021	0.005	4.35



Mann-Kendall Statistical Method Worksheet

Site-- 9-0819

Compound-- MtBE

Well-- MW-10

Input data from four to ten sampling events in Row 10.

	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
Concentration	450	36	27	56	100	83	83	53	63	21	10
	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 1	*****	-1	-1	-1	-1	-1	-1	-1	-1	-1	-9
Compared to Event 2	*****	*****	-1	1	1	1	1	1	1	-1	4
Compared to Event 3	*****	*****	*****	1	1	1	1	1	1	-1	5
Compared to Event 4	*****	*****	*****	*****	1	1	1	-1	1	-1	2
Compared to Event 5	*****	*****	*****	*****	*****	-1	-1	-1	-1	-1	-5
Compared to Event 6	*****	*****	*****	*****	*****	*****	0	-1	-1	-1	-3
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****	-1	-1	-1	-3
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****	1	-1	
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****	-1	-1

Mann-Kendall Statistic 'S' = -10

Statistical Confidence Level

>90% Confidence

$|S| \geq 15$

>95% Confidence

$|S| \geq 20$

Result No Trend

Result No Trend

Mann-Kendall Statistical Method Worksheet

Site-- 9-0819

Compound-- MtBE

Well-- MW-10 Last 6 Events

Input data from four to ten sampling events in Row 10.

	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
Concentration	100	83	83	53	63	21					6
	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 1	*****	-1	-1	-1	-1	-1					-5
Compared to Event 2	*****	*****	0	-1	-1	-1					-3
Compared to Event 3	*****	*****	*****	-1	-1	-1					-3
Compared to Event 4	*****	*****	*****	*****	1	-1					
Compared to Event 5	*****	*****	*****	*****	*****	-1					-1
Compared to Event 6	*****	*****	*****	*****	*****	*****					
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****				
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****			
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****		

Mann-Kendall Statistic 'S' = -12

Statistical Confidence Level

>90% Confidence

$|S| \geq 8$

>95% Confidence

$|S| \geq 10$

Result Decreasing Trend

Result Decreasing Trend

Mann-Kendall Statistical Method Worksheet

Site-- 9-0819
 Compound-- TBA
 Well-- MW-10

Input data from four to ten sampling events in Row 10.

Concentration	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
	50	50	10	10	10	10	10	10	3	5	10
	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 1	*****	0	-1	-1	-1	-1	-1	-1	-1	-1	-8
Compared to Event 2	*****	*****	-1	-1	-1	-1	-1	-1	-1	-1	-8
Compared to Event 3	*****	*****	*****	0	0	0	0	0	-1	-1	-2
Compared to Event 4	*****	*****	*****	*****	0	0	0	0	-1	-1	-2
Compared to Event 5	*****	*****	*****	*****	*****	0	0	0	-1	-1	-2
Compared to Event 6	*****	*****	*****	*****	*****	*****	0	0	-1	-1	-2
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****	0	-1	-1	-2
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****	-1	-1	-2
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****	1	1

Mann-Kendall Statistic 'S' = -27

Statistical Confidence Level

>90% Confidence

$|S| \geq 15$

>95% Confidence

$|S| \geq 20$

Result Decreasing Trend

Result Decreasing Trend

Mann-Kendall Statistical Method Worksheet

Site-- 9-0819

Compound-- TBA

Well-- MW-10 Last 6 Events

Input data from four to ten sampling events in Row 10.

	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
Concentration	10	10	10	10	3	5					6
Compared to Event 1	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 2	*****	0	0	0	-1	-1					-2
Compared to Event 3	*****	*****	*****	0	-1	-1					-2
Compared to Event 4	*****	*****	*****	*****	-1	-1					-2
Compared to Event 5	*****	*****	*****	*****	*****	1					1
Compared to Event 6	*****	*****	*****	*****	*****	*****					
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****				
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****			
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****		

Mann-Kendall Statistic 'S' = -7

Statistical Confidence Level

>90% Confidence

$|S| \geq 8$

>95% Confidence

$|S| \geq 10$

Result No Trend

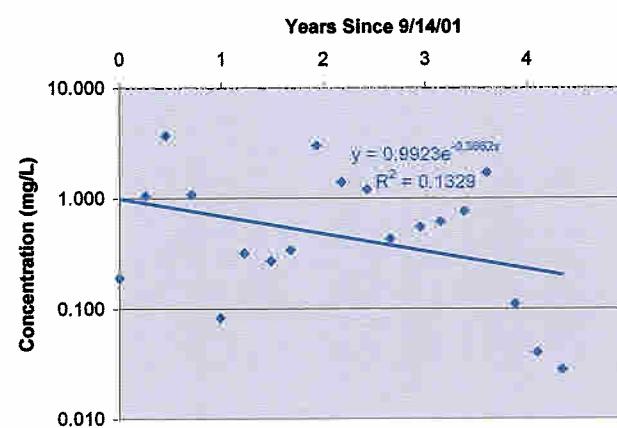
Result No Trend

APPENDIX 1: Attenuation Rate Analysis
Chevron Environmental Management Company
Service Station No. 9-0819
195 E. 17th St., Costa Mesa, California

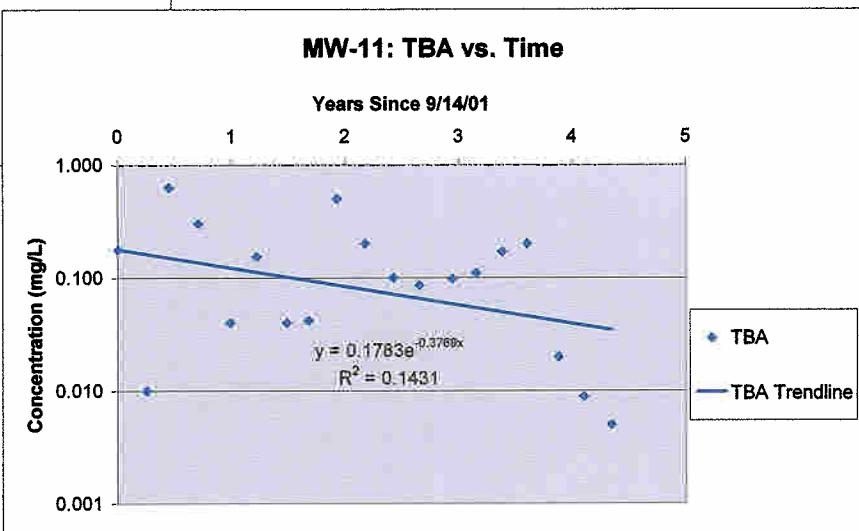
Well ID	Date Sampled	mtbe mg/l	tba mg/l	years since 9/14/01
---------	--------------	-----------	----------	---------------------

MW-11	9/15/2001	0.189	0.178	0.0027397
MW-11	12/17/2001	1.060	0.010	0.26
MW-11	2/26/2002	3.680	0.633	0.45
MW-11	5/31/2002	1.080	0.302	0.71
MW-11	9/11/2002	0.083	0.040	0.99
MW-11	12/5/2002	0.319	0.154	1.22
MW-11	3/11/2003	0.270	0.040	1.49
MW-11	5/20/2003	0.340	0.042	1.68
MW-11	8/20/2003	3.000	0.500	1.93
MW-11	11/19/2003	1.400	0.200	2.18
MW-11	2/17/2004	1.200	0.100	2.43
MW-11	5/11/2004	0.430	0.086	2.66
MW-11	8/25/2004	0.550	0.098	2.95
MW-11	11/8/2004	0.610	0.110	3.15
MW-11	1/31/2005	0.760	0.170	3.38
MW-11	4/21/2005	1.700	0.200	3.60
MW-11	8/1/2005	0.110	0.020	3.88
MW-11	10/20/2005	0.040	0.009	4.10
MW-11	1/17/2006	0.028	0.005	4.35

MW-11: MTBE vs. Time



MW-11: TBA vs. Time



Mann-Kendall Statistical Method Worksheet

Site-- 9-0819

Compound-- TBA

Well-- MW-11

Input data from four to ten sampling events in Row 10.

	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
Concentration	200	100	86	98	110	170	200	20	9	5	10
	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 1	*****	-1	-1	-1	-1	-1	0	-1	-1	-1	-8
Compared to Event 2	*****	****	-1	-1	1	1	1	-1	-1	-1	-2
Compared to Event 3	*****	****	****	1	1	1	1	-1	-1	-1	1
Compared to Event 4	*****	****	****	****	1	1	1	-1	-1	-1	
Compared to Event 5	*****	****	****	****	****	1	1	-1	-1	-1	-1
Compared to Event 6	*****	****	****	****	****	****	1	-1	-1	-1	-2
Compared to Event 7	*****	****	****	****	****	****	****	-1	-1	-1	-3
Compared to Event 8	*****	****	****	****	****	****	****	****	-1	-1	-2
Compared to Event 9	*****	****	****	****	****	****	****	****	****	-1	-1

Mann-Kendall Statistic 'S' = -18

Statistical Confidence Level

>90% Confidence

$|S| \geq 15$

>95% Confidence

$|S| \geq 20$

Result Decreasing Trend

Result No Trend

Mann-Kendall Statistical Method Worksheet

Site-- 9-0819
Compound-- TBA
Well-- MW-11 Last 6 Events

Input data from four to ten sampling events in Row 10.

	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
Concentration	110	170	200	20	9	5					6
	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 1	*****	1	1	-1	-1	-1					-1
Compared to Event 2	*****	*****	1	-1	-1	-1					-2
Compared to Event 3	*****	*****	*****	-1	-1	-1					-3
Compared to Event 4	*****	*****	*****	*****	-1	-1					-2
Compared to Event 5	*****	*****	*****	*****	*****	-1					-1
Compared to Event 6	*****	*****	*****	*****	*****	*****					
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****				
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****			
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****		

Mann-Kendall Statistic 'S' = -9

Statistical Confidence Level

>90% Confidence

$|S| \geq 8$

>95% Confidence

$|S| \geq 10$

Result Decreasing Trend

Result No Trend

Mann-Kendall Statistical Method Worksheet

Site-- 9-0819
Compound-- MtBE
Well-- MW-11

Input data from four to ten sampling events in Row 10.

	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
Concentration	1,400	1,200	430	550	610	760	1,700	110	40	28	10
	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 1	*****	-1	-1	-1	-1	-1	1	-1	-1	-1	-7
Compared to Event 2	*****	*****	-1	-1	-1	-1	1	-1	-1	-1	-6
Compared to Event 3	*****	*****	*****	1	1	1	1	-1	-1	-1	1
Compared to Event 4	*****	*****	*****	*****	1	1	1	-1	-1	-1	
Compared to Event 5	*****	*****	*****	*****	*****	1	1	-1	-1	-1	-1
Compared to Event 6	*****	*****	*****	*****	*****	*****	1	-1	-1	-1	-2
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****	-1	-1	-1	-3
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****	-1	-1	-2
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****	-1	-1

Mann-Kendall Statistic 'S' = -21

Statistical Confidence Level

>90% Confidence

$|S| \geq 15$

>95% Confidence

$|S| \geq 20$

Result Decreasing Trend

Result Decreasing Trend

Mann-Kendall Statistical Method Worksheet

Site-- 9-0819

Compound-- MtBE

Well-- MW-11 Last 6 Events

Input data from four to ten sampling events in Row 10.

	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
Concentration	610	760	1,700	110	40	28					6
	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 1	*****	1	1	-1	-1	-1					-1
Compared to Event 2	*****	*****	1	-1	-1	-1					-2
Compared to Event 3	*****	*****	*****	-1	-1	-1					-3
Compared to Event 4	*****	*****	*****	*****	-1	-1					-2
Compared to Event 5	*****	*****	*****	*****	*****	-1					-1
Compared to Event 6	*****	*****	*****	*****	*****	*****					
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****				
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****			
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****		

Mann-Kendall Statistic 'S' = -9

Statistical Confidence Level

>90% Confidence

$|S| \geq 8$

>95% Confidence

$|S| \geq 10$

Result Decreasing Trend

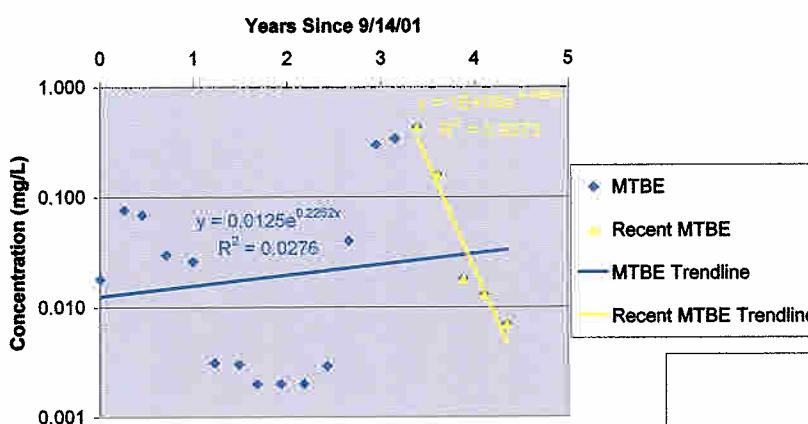
Result No Trend

APPENDIX 1: Attenuation Rate Analysis
Chevron Environmental Management Company
Service Station No. 9-0819
195 E. 17th St., Costa Mesa, California

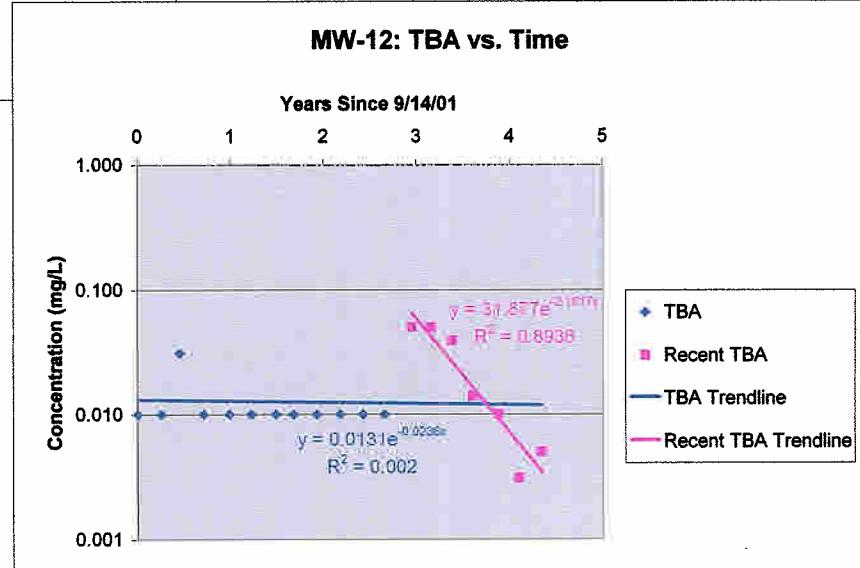
Well ID	Date Sampled	mtbe mg/l	tba mg/l	years since 9/14/01
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MW-12	9/15/2001	0.018	0.010	0.0027397
MW-12	12/17/2001	0.076	0.010	0.26
MW-12	2/26/2002	0.069	0.031	0.45
MW-12	5/31/2002	0.030	0.010	0.71
MW-12	9/11/2002	0.026	0.010	0.99
MW-12	12/5/2002	0.003	0.010	1.22
MW-12	3/11/2003	0.003	0.010	1.49
MW-12	5/20/2003	0.002	0.010	1.68
MW-12	8/20/2003	0.002	0.010	1.93
MW-12	11/19/2003	0.002	0.010	2.18
MW-12	2/17/2004	0.003	0.010	2.43
MW-12	5/11/2004	0.040	0.010	2.66
MW-12	8/25/2004	0.300	0.050	2.95
MW-12	11/8/2004	0.340	0.050	3.15
MW-12	1/31/2005	0.430	0.039	3.38
MW-12	4/21/2005	0.160	0.014	3.60
MW-12	8/1/2005	0.018	0.010	3.88
MW-12	10/20/2005	0.013	0.003	4.10
MW-12	1/17/2006	0.007	0.005	4.35

MW-12: MTBE vs. Time



MW-12: TBA vs. Time



Mann-Kendall Statistical Method Worksheet

Site-- 9-0819

Compound-- MtBE

Well-- MW-12

Input data from four to ten sampling events in Row 10.

Concentration	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
	2	3	40	300	340	430	160	18	13	7	10
Compared to Event 1	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 1	*****	1	1	1	1	1	1	1	1	1	9
Compared to Event 2	*****	*****	1	1	1	1	1	1	1	1	8
Compared to Event 3	*****	*****	*****	1	1	1	1	-1	-1	-1	1
Compared to Event 4	*****	*****	*****	*****	1	1	-1	-1	-1	-1	-2
Compared to Event 5	*****	*****	*****	*****	*****	1	-1	-1	-1	-1	-3
Compared to Event 6	*****	*****	*****	*****	*****	*****	-1	-1	-1	-1	-4
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****	-1	-1	-1	-3
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****	-1	-1	-2
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****	-1	-1

Mann-Kendall Statistic 'S' = 3

Statistical Confidence Level

>90% Confidence

$|S| \geq 15$

>95% Confidence

$|S| \geq 20$

Result No Trend

Result No Trend

Mann-Kendall Statistical Method Worksheet

Site-- 9-0819

Compound-- MtBE

Well-- MW-12 Last 6 Events

Input data from four to ten sampling events in Row 10.

	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
Concentration	340	430	160	18	13	7					6
	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 1	*****	1	-1	-1	-1	-1					-3
Compared to Event 2	*****	*****	-1	-1	-1	-1					-4
Compared to Event 3	*****	*****	*****	-1	-1	-1					-3
Compared to Event 4	*****	*****	*****	*****	-1	-1					-2
Compared to Event 5	*****	*****	*****	*****	*****	-1					-1
Compared to Event 6	*****	*****	*****	*****	*****	*****					
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****				
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****			
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****		

Mann-Kendall Statistic 'S' = -13

Statistical Confidence Level

>90% Confidence

$|S| \geq 8$

>95% Confidence

$|S| \geq 10$

Result Decreasing Trend

Result Decreasing Trend

Mann-Kendall Statistical Method Worksheet

Site-- 9-0819
 Compound-- TBA
 Well-- MW-12

Input data from four to ten sampling events in Row 10.

	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
Concentration	10	10	10	50	50	39	14	10	3	5	10
	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 1	*****	0	0	1	1	1	1	0	-1	-1	2
Compared to Event 2	*****	*****	0	1	1	1	1	0	-1	-1	2
Compared to Event 3	*****	*****	*****	1	1	1	1	0	-1	-1	2
Compared to Event 4	*****	*****	*****	*****	0	-1	-1	-1	-1	-1	-5
Compared to Event 5	*****	*****	*****	*****	*****	-1	-1	-1	-1	-1	-5
Compared to Event 6	*****	*****	*****	*****	*****	*****	-1	-1	-1	-1	-4
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****	-1	-1	-1	-3
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****	-1	-1	-2
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****	1	1

Mann-Kendall Statistic 'S' = -12

Statistical Confidence Level

>90% Confidence

$|S| \geq 15$

>95% Confidence

$|S| \geq 20$

Result No Trend

Result No Trend

Mann-Kendall Statistical Method Worksheet

Site-- 9-0819
Compound-- TBA
Well-- MW-12 Last 6 Events

Input data from four to ten sampling events in Row 10.

Concentration	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
	50	39	14	10	3	5					6
Compared to Event 1	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 1	*****	-1	-1	-1	-1	-1					-5
Compared to Event 2	*****	****	-1	-1	-1	-1					-4
Compared to Event 3	*****	****	****	-1	-1	-1					-3
Compared to Event 4	*****	****	****	****	-1	-1					-2
Compared to Event 5	*****	****	****	****	****	1					1
Compared to Event 6	*****	****	****	****	****	****					
Compared to Event 7	*****	****	****	****	****	****	****				
Compared to Event 8	*****	****	****	****	****	****	****	****			
Compared to Event 9	*****	****	****	****	****	****	****	****	****		

Mann-Kendall Statistic 'S' = -13

Statistical Confidence Level

>90% Confidence

$|S| \geq 8$

>95% Confidence

$|S| \geq 10$

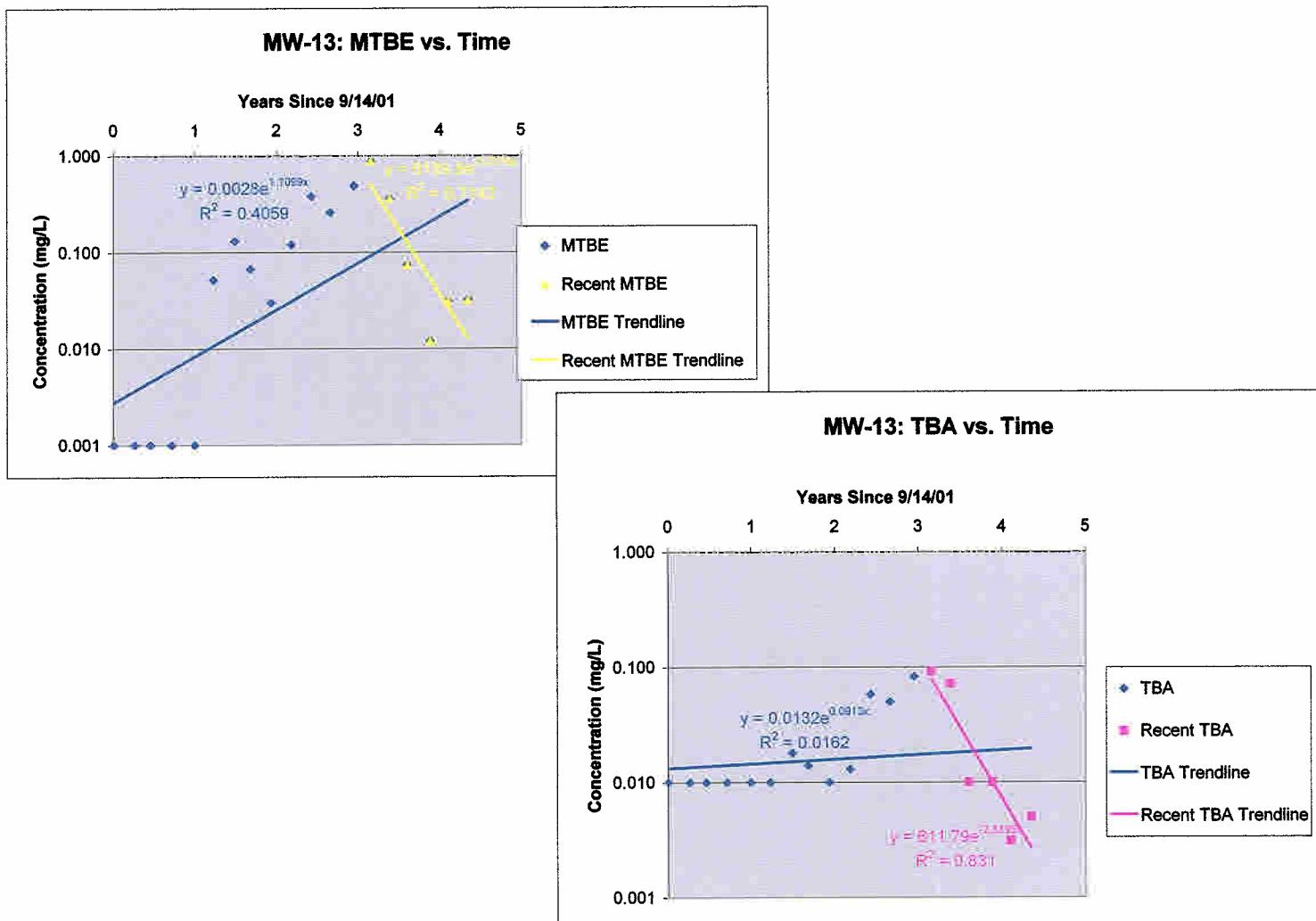
Result Decreasing Trend

Result Decreasing Trend

APPENDIX 1: Attenuation Rate Analysis
Chevron Environmental Management Company
Service Station No. 9-0819
195 E. 17th St., Costa Mesa, California

Well ID	Date Sampled	mtbe mg/l	tba mg/l	years since 9/14/01
---------	--------------	-----------	----------	---------------------

MW-13	9/15/2001	0.001	0.010	0.0027397
MW-13	12/17/2001	0.001	0.010	0.26
MW-13	2/26/2002	0.001	0.010	0.45
MW-13	5/31/2002	0.001	0.010	0.71
MW-13	9/11/2002	0.001	0.010	0.99
MW-13	12/5/2002	0.052	0.010	1.22
MW-13	3/11/2003	0.130	0.018	1.49
MW-13	5/20/2003	0.067	0.014	1.68
MW-13	8/20/2003	0.030	0.010	1.93
MW-13	11/19/2003	0.120	0.013	2.18
MW-13	2/17/2004	0.380	0.058	2.43
MW-13	5/11/2004	0.260	0.050	2.66
MW-13	8/25/2004	0.490	0.083	2.95
MW-13	11/8/2004	0.880	0.092	3.15
MW-13	1/31/2005	0.360	0.072	3.38
MW-13	4/21/2005	0.074	0.010	3.60
MW-13	8/1/2005	0.012	0.010	3.88
MW-13	10/20/2005	0.031	0.003	4.10
MW-13	1/17/2006	0.032	0.005	4.35



Mann-Kendall Statistical Method Worksheet

Site-- 9-0819
Compound-- MtBE
Well-- MW-13

Input data from four to ten sampling events in Row 10.

Concentration	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
	2	3	40	300	340	430	160	18	13	7	10
	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 1	*****	1	1	1	1	1	1	1	1	1	9
Compared to Event 2	*****	*****	1	1	1	1	1	1	1	1	8
Compared to Event 3	*****	*****	*****	1	1	1	1	-1	-1	-1	1
Compared to Event 4	*****	*****	*****	*****	1	1	-1	-1	-1	-1	-2
Compared to Event 5	*****	*****	*****	*****	*****	1	-1	-1	-1	-1	-3
Compared to Event 6	*****	*****	*****	*****	*****	*****	-1	-1	-1	-1	-4
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****	-1	-1	-1	-3
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****	-1	-1	-2
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****	-1	-1

Mann-Kendall Statistic 'S' = 3

Statistical Confidence Level

>90% Confidence

$|S| \geq 15$

>95% Confidence

$|S| \geq 20$

Result No Trend

Result No Trend

Mann-Kendall Statistical Method Worksheet

Site-- 9-0819
Compound-- MtBE
Well-- MW-13 Last 6 Events

Input data from four to ten sampling events in Row 10.

	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
Concentration	880	360	74	12	31	32					6
	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 1	*****	-1	-1	-1	-1	-1					-5
Compared to Event 2	*****	*****	-1	-1	-1	-1					-4
Compared to Event 3	*****	*****	*****	-1	-1	-1					-3
Compared to Event 4	*****	*****	*****	*****	1	1					2
Compared to Event 5	*****	*****	*****	*****	*****	1					1
Compared to Event 6	*****	*****	*****	*****	*****	*****					
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****				
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****			
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****		

Mann-Kendall Statistic 'S' = -9

Statistical Confidence Level

>90% Confidence

$|S| \geq 8$

>95% Confidence

$|S| \geq 10$

Result Decreasing Trend

Result No Trend

Mann-Kendall Statistical Method Worksheet

Site-- 9-0819
 Compound-- TBA
 Well-- MW-13

Input data from four to ten sampling events in Row 10.

Concentration	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
	13	58	50	83	92	72	10	10	3	5	10
	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 1	*****	1	1	1	1	1	-1	-1	-1	-1	1
Compared to Event 2	*****	****	-1	1	1	1	-1	-1	-1	-1	-2
Compared to Event 3	*****	****	****	1	1	1	-1	-1	-1	-1	-1
Compared to Event 4	*****	****	****	****	1	-1	-1	-1	-1	-1	-4
Compared to Event 5	*****	****	****	****	****	-1	-1	-1	-1	-1	-5
Compared to Event 6	*****	****	****	****	****	****	-1	-1	-1	-1	-4
Compared to Event 7	*****	****	****	****	****	****	****	0	-1	-1	-2
Compared to Event 8	*****	****	****	****	****	****	****	****	-1	-1	-2
Compared to Event 9	*****	****	****	****	****	****	****	****	****	1	1

Mann-Kendall Statistic 'S' = -18

Statistical Confidence Level

>90% Confidence

$|S| \geq 15$

>95% Confidence

$|S| \geq 20$

Result Decreasing Trend

Result No Trend

Mann-Kendall Statistical Method Worksheet

Site-- 9-0819

Compound-- TBA

Well-- MW-13 Last 6 Events

Input data from four to ten sampling events in Row 10.

Concentration	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Events
	92	72	10	10	3	5					6
	--	--	--	--	--	--	--	--	--	--	Sum
Compared to Event 1	*****	-1	-1	-1	-1	-1					-5
Compared to Event 2	*****	*****	-1	-1	-1	-1					-4
Compared to Event 3	*****	*****	*****	0	-1	-1					-2
Compared to Event 4	*****	*****	*****	*****	-1	-1					-2
Compared to Event 5	*****	*****	*****	*****	*****	1					1
Compared to Event 6	*****	*****	*****	*****	*****	*****					
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****				
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****			
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****		

Mann-Kendall Statistic 'S' = -12

Statistical Confidence Level

>90% Confidence

$|S| \geq 8$

>95% Confidence

$|S| \geq 10$

Result Decreasing Trend

Result Decreasing Trend